

In This Issue—Flat Rates Mean More Money for the Mechanic

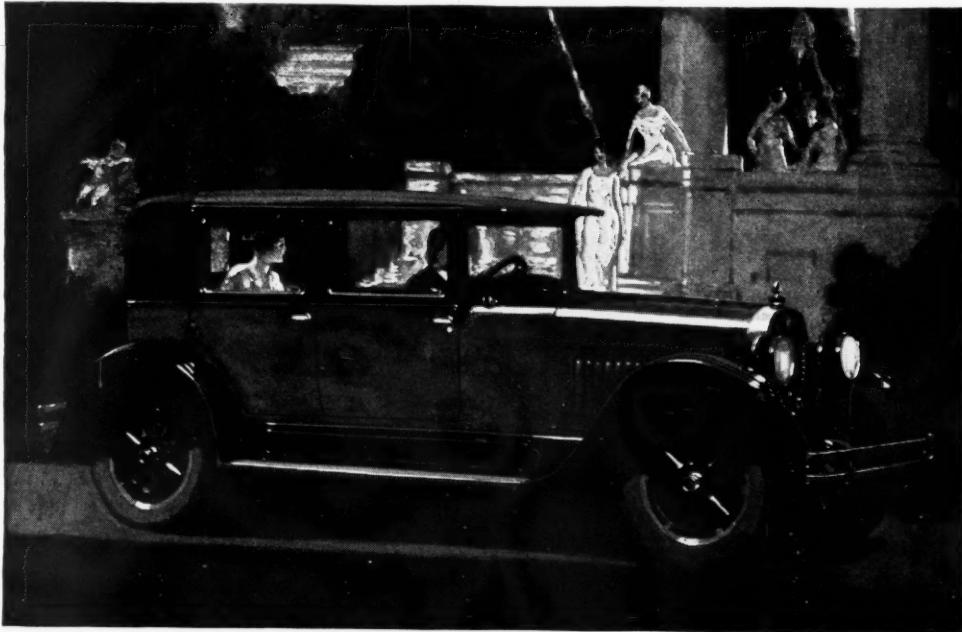
# MOTOR AGE

Vol. L  
Number 8

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CHICAGO, AUGUST 26, 1926

Thirty-five Cents a Copy  
Three Dollars a Year

## New and More Beautiful HUDSONS



*The New Hudson Brougham*

These beautiful new Hudsons—the Sedan, Brougham and the Coach—overshadow all the great Super-Sixes of the past. New bodies—new colors—new beauty, performance and comfort.

Each is more striking and distinctive in appearance. Each is a triumph of body quality, comfort and price advantage. Each is mechanically at the height of its value and reliability.

For more than 11 years the patented Super-Six prin-

ciple has given outstanding performance and reliability to over 850,000 owners.

This long experience and vast production have brought about not only a much finer car in every particular, but also have resulted in economies of manufacture and distribution that give amazing price and value.

These new Hudsons are commanding a greater attention than any preceding model because they far excel any previous achievement of our history.

**Standard Equipment Includes:** Automatic Windshield Cleaner, Rear-View Mirror, Transmission Lock (built in), Radiator Shutters, Moto-Meter, Combination Stop and Tail Light.

HUDSON MOTOR CAR COMPANY, Detroit, Michigan

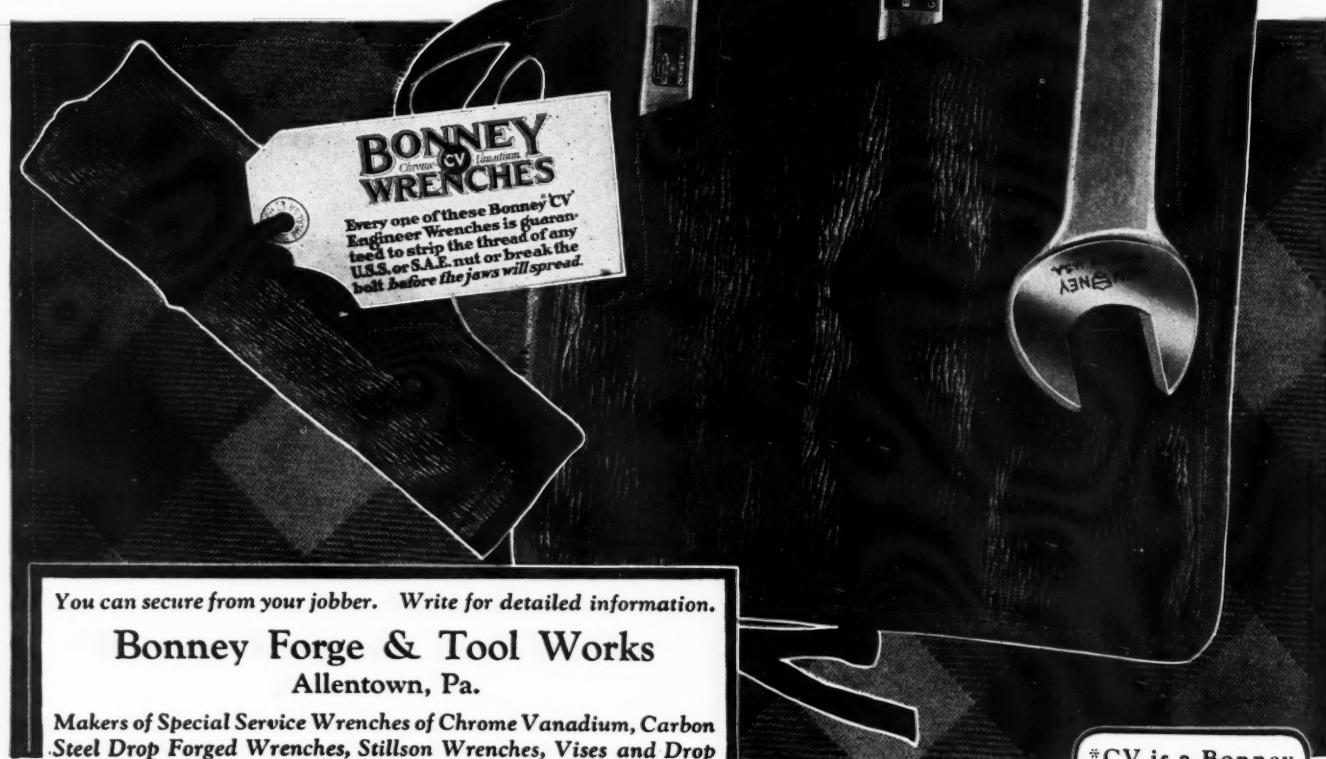
# New Bonney №1 Sample Kit

## \$2.50

Attractive Discounts to Dealers

Three Bonney \*CV Chrome Vanadium double end Engineer's Wrenches for the six most popular SAE bolts ( $3/16"$ ,  $1/4"$ ,  $5/16"$ ,  $3/8"$ ,  $1/2"$ ,  $9/16"$ ) in a leatherette kit. The price, \$2.50, is less than the regular price of the three wrenches if purchased individually, no charge being made for the leatherette kit.

This sample kit is offered at this price because we know that after a mechanic has used a few Bonney Chrome Vanadium Wrenches nothing else will satisfy him.



You can secure from your jobber. Write for detailed information.

Bonney Forge & Tool Works  
Allentown, Pa.

Makers of Special Service Wrenches of Chrome Vanadium, Carbon Steel Drop Forged Wrenches, Stillson Wrenches, Vises and Drop Forgings and the Bonney Rim Tool.

# BONNEY

Chrome-**CV** Vanadium

# WRENCHES

(Patents Pending)

## A PROFITABLE RESALE ITEM

This kit is ideal for the automobile owner, containing genuine Bonney \*CV Chrome Vanadium Wrenches of the sizes most used, in an attractive tool roll, at a price that anyone can afford to pay.

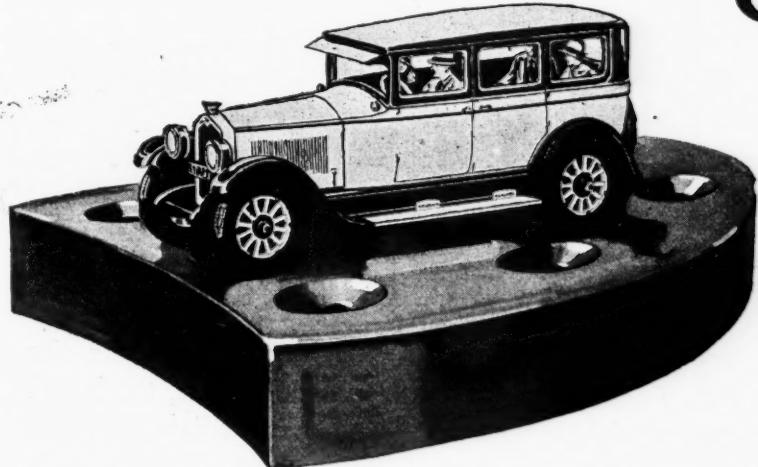
\*CV is a Bonney trademark registered in the U.S. Patent Office.

Chrome Vanadium registered August 11, 1925.



In the  
**GREATEST BUICK EVER BUILT-**

*a completely  
cushioned engine*



Rubber, the great silencer, now insulates Buick engine mountings. A heavy resilient cushion at *each* engine support, front and rear, absorbs noise and saves the engine from road shocks and strains.

Chassis and body reverberations are stopped before they start by these impassable barriers, and by other vital improvements which have made the 1927 Buick engine *vibrationless beyond belief*.

Quiet prevails in this great new car at all speeds. Every Buick engine is cushioned. Every Buick chassis, no matter what its wheelbase, has this new silencing insulation. Every Buick model, no matter what its price, can show its "rubber heels".

Drive the 1927 Buick in comparison with any car on earth, regardless of its selling price, and let your ears and eyes convince you of Buick superiority!



WHEN BETTER AUTOMOBILES ARE BUILT... BUICK WILL BUILD THEM

MOTOR CARS

# ECLIPSE BENDIX DRIVE



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THE Eclipse Bendix Service Assortment puts the proper spring for practically every car, truck and taxicab right at your finger-tips for immediate use when replacements are necessary. Shows part number of each spring, and types of drive on which it is used. Order the Service Assortment from your jobber.

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Service Bulletins giving authentic and easily understood information on the proper servicing of the Eclipse Bendix Drive are issued regularly. We will be glad to send them to you without charge. Just fill out the coupon and mail today.

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Eclipse Machine Company  
Elmira, New York  
Department 7

**MAIL THIS COUPON**

Please send at once your useful Service Bulletins on the Eclipse Bendix Drive; also name of nearest distributor of Genuine Parts for the Eclipse Bendix Drive.

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# MOTOR AGE

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Vol. L

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No. 8

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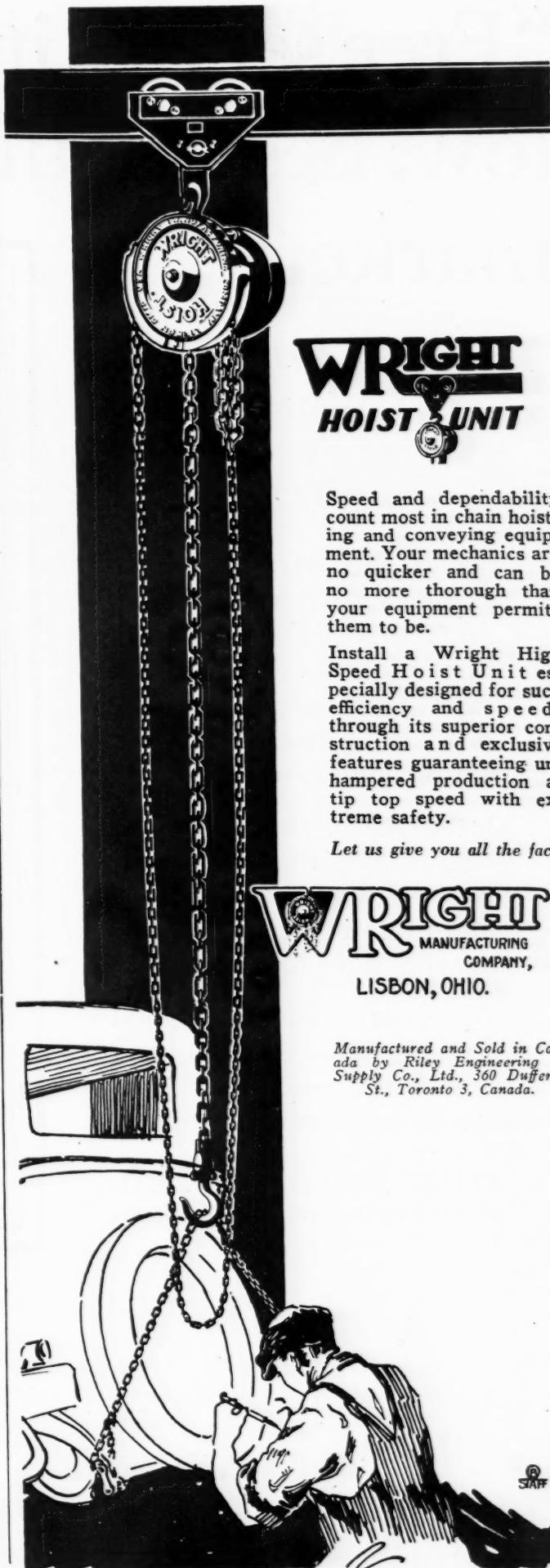
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Speed and dependability count most in chain hoisting and conveying equipment. Your mechanics are no quicker and can be no more thorough than your equipment permits them to be.

Install a Wright High Speed Hoist Unit especially designed for such efficiency and speed, through its superior construction and exclusive features guaranteeing unhampered production at tip top speed with extreme safety.

Let us give you all the facts

**WRIGHT**  
 MANUFACTURING  
 COMPANY,  
 LISBON, OHIO.

Manufactured and Sold in Canada by Riley Engineering & Supply Co., Ltd., 360 Dufferin St., Toronto 3, Canada.

# “Free service item surprisingly low; best mountain car on the market”

*Read the letter of*  
**C. H. Watts, Manager**  
**STUTZ SALES COMPANY**  
 Denver

**IT IS the advanced engineering of the New Safety Stutz that makes it so economical to service. See the car's specifications and note how its features make it almost take care of itself.**

**It is, again, this advanced engineering that makes the New Safety Stutz such a mountain-eater and so able to withstand hard usage.**

**We want to hear from good dealers who are looking ahead, and who want to go ahead in sales and profits.**

**STUTZ MOTOR CAR CO.  
 of AMERICA, Inc., Indianapolis**

Stutz Motor Car Company of America, Inc.,  
 Indianapolis, Indiana.

Sirs:

It will no doubt be of interest to you to know of the success we are having in this territory with the New Stutz Vertical Eight.

Our territory, as you know, covers all the mountain region of Colorado, and a large share of Wyoming and New Mexico, which is, we think, an ideal section to determine whether or not a car is a winner or a failure, in the shortest period of time.

If you will refer to our delivery reports you will find that the largest share of buyers for the New Vertical Eight are outside of our largest cities. About sixty per cent were sold mainly because the purchaser felt that he was getting a car that would take the mountain grades better than anything else on the market, and because they felt the car was built to stand the hardest use of any car on the market.

We delivered three cars of the first one hundred built. These buyers were not disappointed, but are all boosters for the New Stutz and we feel that eighty per cent of the owners, when again in the market for a car, will come back to our salesroom for another Stutz Vertical Eight.

Some of these cars have seen many thousand miles of Colorado and Wyoming roads and we have yet to make the first adjustment on the new worm drive. We have, also, made an examination of the car having covered the greatest number of miles in this territory and find it perfect and showing practically no wear. We have, also, found the new worm to have a decided advantage over the old bevel-gear-and-pinion in snow and mud. The new overhead cam has proved a remarkable feature and we consider it the simplest and most efficient Eight on the market.

We have, also, found that free service is a small item in the distribution and retail sales of this new car. In fact, we have found it surprisingly low in comparison with other cars of our experience.

Very truly yours,  
**STUTZ SALES COMPANY,**

*C. H. Watts*



*New*  
**SAFETY STUTZ**

*There is no static in*  
**STUDEBAKER!**



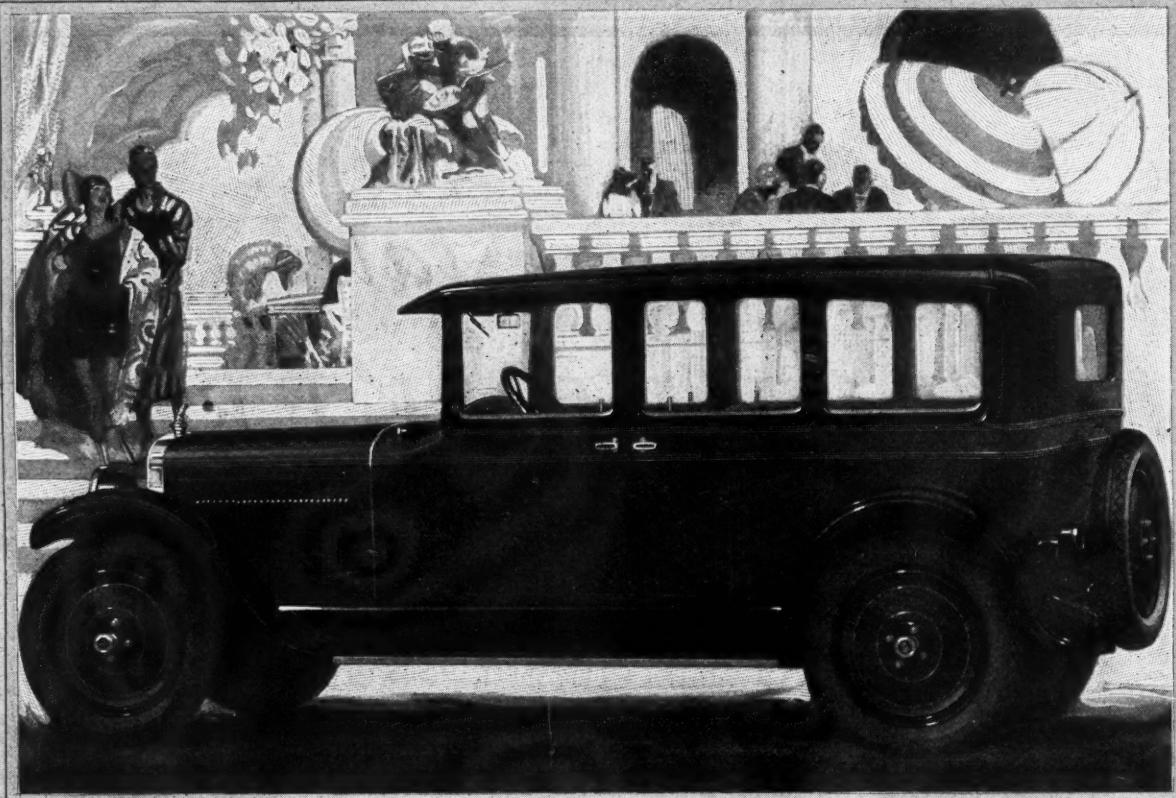
**W**HAT makes the Studebaker Franchise so valuable is the Studebaker policy of pulling business for its Dealers by continually pulling something new in the shape of creative betterments at the factory.

But never in its One-Profit history has it achieved anything comparable with the new Studebaker Custom Sedans.

And never has there been a more opportune time than now to cash in on the money-making possibilities of the Studebaker Franchise.

 Your territory may be open   
If it is—**ARE YOU?**

**STUDEBAKER**



**NASH**  
*Leads the World in Motor Car Value*

# The Newly Refined Light Six — \$995

f. o. b. factory

Genuine Wood-frame Body  
as on Finest American  
and European Cars  
Longer Body

Rounded Roof Design

at Rear of Body

4-Wheel Brakes

New Gas Gauge

in New Instrument Panel

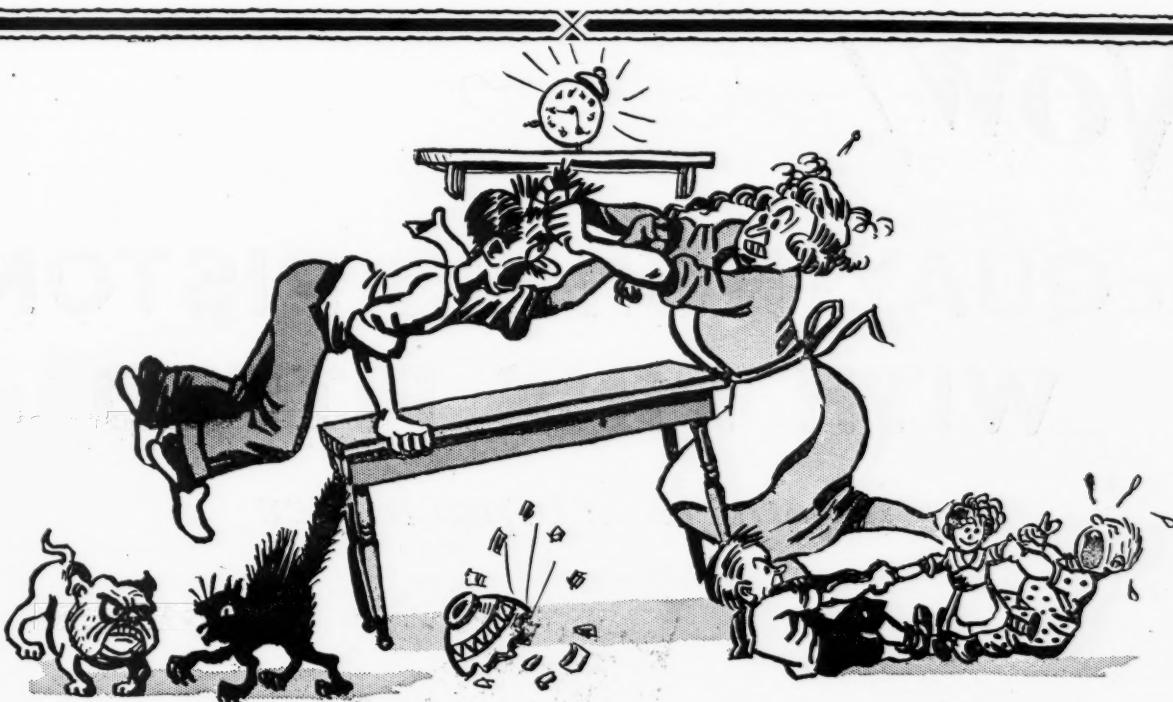
Air Cleaner and Oil Filter

7-Bearing Crankshaft Motor

Full Force-feed Lubrication

5 Disc Wheels

(4035)



## Friction is Ruinous!

—and is just as disastrous in motor cars as in the home.

It uses up a lot of energy and gets us nowhere—although it gets us a lot of *wear*.

We won't attempt to prescribe for family friction, but we have an unfailing elixir for mechanical wear—in New Departure Ball Bearings.

Since nothing rolls as easily, as friction-free as a ball, and since no bearing has ever been made so accurately, so well and of such tough resilient steels as the New Departure Ball Bearing, it wipes out the wear and tear of friction most completely and does it longer than any other bearing type.

*Write for your copy of the New Departure Ball Bearing Manual, just off the press.*

THE NEW DEPARTURE MANUFACTURING COMPANY  
Detroit                    BRISTOL, CONNECTICUT                    Chicago

# New Departure Quality Ball Bearings

# Now!

## McQUAY-NORRIS PISTONS WITH PINS FITTED

*in single-set packages*

Factory Duplicates  
Attractive Prices



Packed in  
Sets of 4

for Fords  
Chevrolets and Fordsons

*at special prices*

Have you received your new  
Sept. 1st price list? It covers  
the new packages, many new  
list prices, and additional  
larger undersized bearings.

*The Complete McQUAY-NORRIS parts line*  
**PISTON RINGS - PISTONS - PINS - BEARINGS**

McQUAY-NORRIS MANUFACTURING COMPANY. General Offices, ST. LOUIS, U. S. A.  
Factories: St. Louis, Indianapolis, Connerville, Ind., Toronto, Canada

# Can Advertising Establish Market Price for Used Cars?

*One Trade Association Proposes to Try It*

THE nationally advertised pricing of automobiles has been a powerful factor in the growth and development of the motor car industry. The practice has set certain standards of values that have enabled the interested public to consider and appraise their own resources with reference to the possible ownership of an automobile.

The constant publishing of prices broadcast, together with accumulative evidence that more and more persons are paying those prices, has a definite psychological effect. From much repetition prices that once seemed high and forbidding are brought within the realm of favorable consideration by a large group of the population. The desire to own the advertised article is soon created and with the desire established the individual is stimulated to greater activity in order to achieve possession and ownership.

Attention is now turned to the possibilities of well directed advertising in the used car field. Used car advertising has been limited chiefly to the classified pages of the daily newspapers. Such advertising has done a great deal to move used cars but not very much to stimulate public interest in them and thus enlarge and improve the market.

There are scores of local instances where dealers advertise their used cars as "certified," "reconditioned," "guaranteed," or other special designation, and quote prices specifically. Such advertising has in most cases been successful, provided the dealer established a reputa-

## Forty Causes of Engine Overheating and the Remedies

Every reader of MOTOR AGE will be interested in the two articles on the causes of engine overheating that will be published in the next two succeeding issues. Next week's article will cover a large number of the possible causes and the subject will be completed in the following issue.

A special feature will be a large chart that will show graphically all the possible causes of overheating and the remedies. This chart will be especially useful for the service man to check his work by when he has difficulty in locating the cause of a hot running engine.

A definite sale of service or merchandise, or both, is suggested in connection with each of the 40 causes. In other words, 40 merchandising ideas.

Look for the first article and the big chart next week.

tion of reliability. But the results have been scattered and the accomplishment of little benefit to the industry as a whole.

A used car advertising program about to be tried in San Antonio, Texas, offers interesting possibilities. The trade association will establish certain standards of value for used cars after they have been placed in condition for resale to the public, and with those values as a basis will widely advertise the prices that will be paid by dealers in that city for used cars now in the hands of owners.

It is intended that this advertising will be so specific that it will tell any individual owner practically the exact amount that he can get for his old car.

It is believed that this system will do a great deal to stabilize prices of used cars and to give the public a definite idea of actual market values. It would be in effect a current market quotation of used car prices for the seller. It would also be of value to the used car buyer in that without having to make inquiry he could figure fairly close to what he would have to pay a dealer for a used car of the make he is interested in. This system is expected to be useful in turning car owners away from inflated ideas of the value of the old cars and make it easier for dealers to approach them with reasonable offers for used vehicles.

It will be interesting to watch the development of this plan and see whether or not it is possible by means of constant advertising to establish generally accepted market values for used cars.



George Edwards

**C**LOSING fifty per cent of one's automobile sales prospects may be considered bang-up good salesmanship. Closing sixty per cent is considerably better. But think of closing ninety per cent! Immediately, some gent in the rear of the room arises to say that it can't be done. Well, all right, so be it. I do not intend to argue with the gent who has arisen. I am merely going to tell how George Edwards, a farmer boy of southern Missouri, so chooses his prospects and handles them that he is able to do that very thing.

George was born and reared on a rocky hill farmstead in the heart of the Missouri Ozarks, that section of the country which furnished material for most of the worn-out "Arkansas" jokes of twenty years ago, and today buys its share of high grade merchandise.

There was a time when the Edwards home was one of the best in that locality. But that was when times were better for George's father. In those days, Carrol Edwards could have had anything he wanted, from a farm on down to a cow, on the strength of his note alone. But conditions changed. So, as the years passed, it became more and more necessary for each of his six children to help in wringing a livelihood from the rocky upland farm.

But George, who was the third child, did not possess the

# Turns Crops

*By Listening and Observing George Edwards, Ozark Farm Boy, Learns Who of His Stone County Neighbors Are Doing Well Enough to Buy a New Car and Then He Sells Them*

*By U. N. VERSAL*

same rugged constitution as did the rest of the family. Weakened physically, he could not stand up to hard labor. So George knew that he must find some occupation to which he was better suited and one which suited him better than farming.

An accomplished "fiddler," for a while he did little except fiddle for the many square dances of the hill country. But while his services were constantly in demand, such an occupation failed to satisfy him. Finally, one day a couple of years ago, a friend came to him with a suggestion.

"George," he said, "why don't you sell something? You're a likeable chap and meet people well. And you know every man, woman, child, and hound dog in Stone County."

"Law, no!" laughed George. "I don't want to be a peddler."

"I don't mean that way," replied the friend. "I mean something mechanical. You have a turn for machinery, and have handled it some. And you worked a little with automobiles when you took your trip into Oklahoma. Why don't you sell cars?"

So George turned the matter over in his mind for a few days and decided to try it. One morning, he saddled a horse and rode thirteen miles into Reed's Spring, Missouri, to apprise the Horn and Emerson Motor Company that he had decided to sell automobiles. I do not know just what was said during that interview. But I do know that when he returned the next day, George Edwards had been appointed a salesman for the company, and was ready to sell anybody and everybody one of Detroit's most famous products.

There was one place where George might have figured that he had the advantage of salesmen in more populous centers, had he been given much to theory. And that was in the matter of competition. For although Stone County, Missouri, is within a day's drive of a half dozen cities boasting a population of from fifty thousand to one million inhabitants, few of the big-town salesmen have ever thought it worth while to work the territory because of its poor roads and scattered population. But in the last few years has come a measure of progress, and with it, better roads. And with improved highways had come a market for cars.

For that matter, however, it is doubtful if a salesman from the city could have made the success that George has made. Business in the hills where families have lived for a hundred years or more is done on a different basis than on "the outside." Nor, very likely, would a salesman from a large town have been willing to trouble himself by studying local conditions as this farmer boy has done. And yet, therein really lies the secret of his success.

George's selling accomplishments first came to my notice

# into Cars

several months ago. We would see him on nice days down on the banks of the river, fishing, or strolling through the woods with his dog and gun. Or maybe it would be that we found him sitting on the front porch of the general store over in town, talking casually with some farmer. Then he would disappear for a day or two. When he returned, it was always with the news that he sold a car to some resident of the county. Finally, one day, my curiosity got the better of me.

"George," I demanded, "don't you ever miss a sale?"

"Laws, yes," he grinned. "Course I do. I missed one last month."

"But," I persisted, "how many did you make?"

"Four."

"And how many since the last sale you missed before that?"

"Five."

Further quizzing elicited the information that in one period of three months, he had closed *ninety per cent of all the prospects interviewed*. He thought that sixty per cent was a rotten average!

"How on earth," I wanted to know, "do you do it?"

"Well," said George, "it's like this. You go down here to the river, and pick up one of the rocks on the beach. It isn't like any other one you ever saw. There are millions of rocks along one mile of that river, and no two of them are alike. That's the way with folks. There aren't any two of them alike, and a fellow can't forget it. So I treat every one of them just a little bit differently."

"As for getting my prospects, that it easy. I keep pretty good tab on how these fellows get along with their crops. If one has a lot of hay, or strawberries, or makes money on his chickens, he's sure to tell about it. So I just listen, and after a while I say something about a car if I think he's got the money to pay for it."

"Take Emmet Blackstone, for instance. I thought I never was going to sell him. Why I fooled along with him for two months. I'd persuaded Mrs. Blackstone that they ought to have a car, but Emmet always said that he would just as soon have a broken-down threshing machine to cuss, and it wouldn't cost him so much for tires and gas. Well, one day a new model of car came out, and I got one and drove down and took Emmet fishing. Then I talked to him a little and he finally admitted that he wanted a car, but didn't feel that he could afford it."

"Well, Emmet had out some oats, more than enough to pay for a car, but they didn't seem to be making anything. So I just had about given it up when we got a good soaking rain. I waited a few days and walked across Emmet's

*"I DON'T want to be a peddler," said George Edwards, farm boy. But now he sells cars and when he picks out a prospect to call on the chances are 10 to one that the sale will be made.*

field and saw that the oats were coming out fine. So I went into Reed's and got a car and drove it back out to Emmet's.

"When I got there, Emmet was just ready to start plowing; had his horses all harnessed and everything. But I walked up and told him that I had a car down at the gate waiting for him. He left a fellow who was helping him to put away the team, went down to the car and climbed in. Didn't say a word. So I started for Reed's Spring, showing him how to drive. When we got to town, we fixed up the papers, and that was all there was to it."

"Well," I prodded, "go on. Tell me some more." George pondered a minute.

"I reckon that my sale last Saturday was the best that I ever made," he continued. "I found out from talking with him that Sam Yeager, up by Crane, had set out a lot of strawberries last year, and that he had a pretty good crop this season. But he had some trouble getting them into town. So I went in and got a car and drove up to Sam's place. Found him cutting brush. So I went over and talked to him while he worked, telling him how easy it would be to get those berries into town with a car."

"Well, sir, after a little while Sam straightened up and I thought maybe he was going to do something bad. I was afraid he was going to tell me to get out. But instead, he wanted to know how soon I could get him a car."

So I took him down to the road and showed him the car I had driven out. That was a cash sale. Then Sam sent me over into the other end of the county to a friend of his, and I sold another one the same day."

"Do you get all of your prospects that way?" I asked.

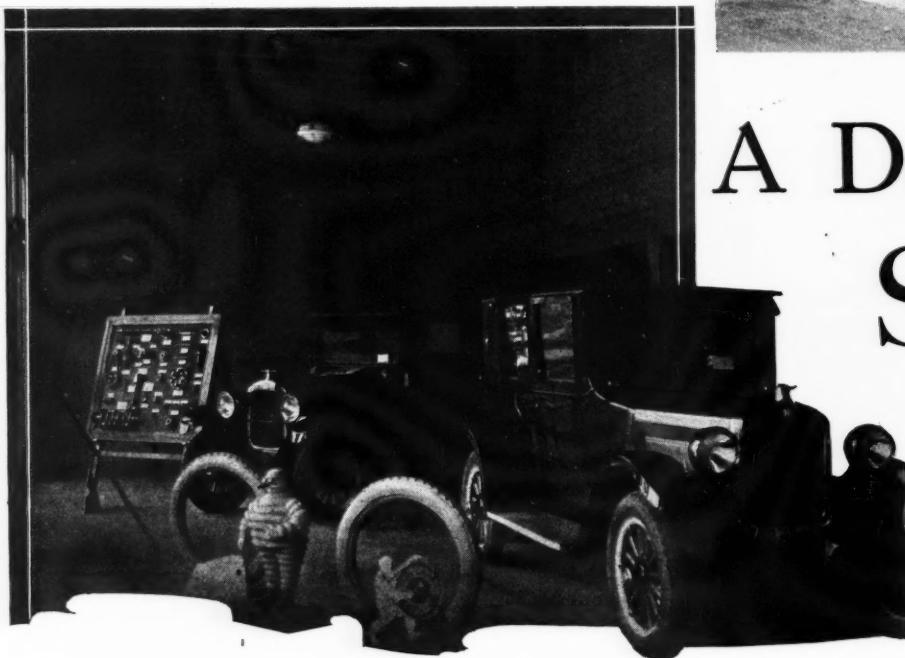
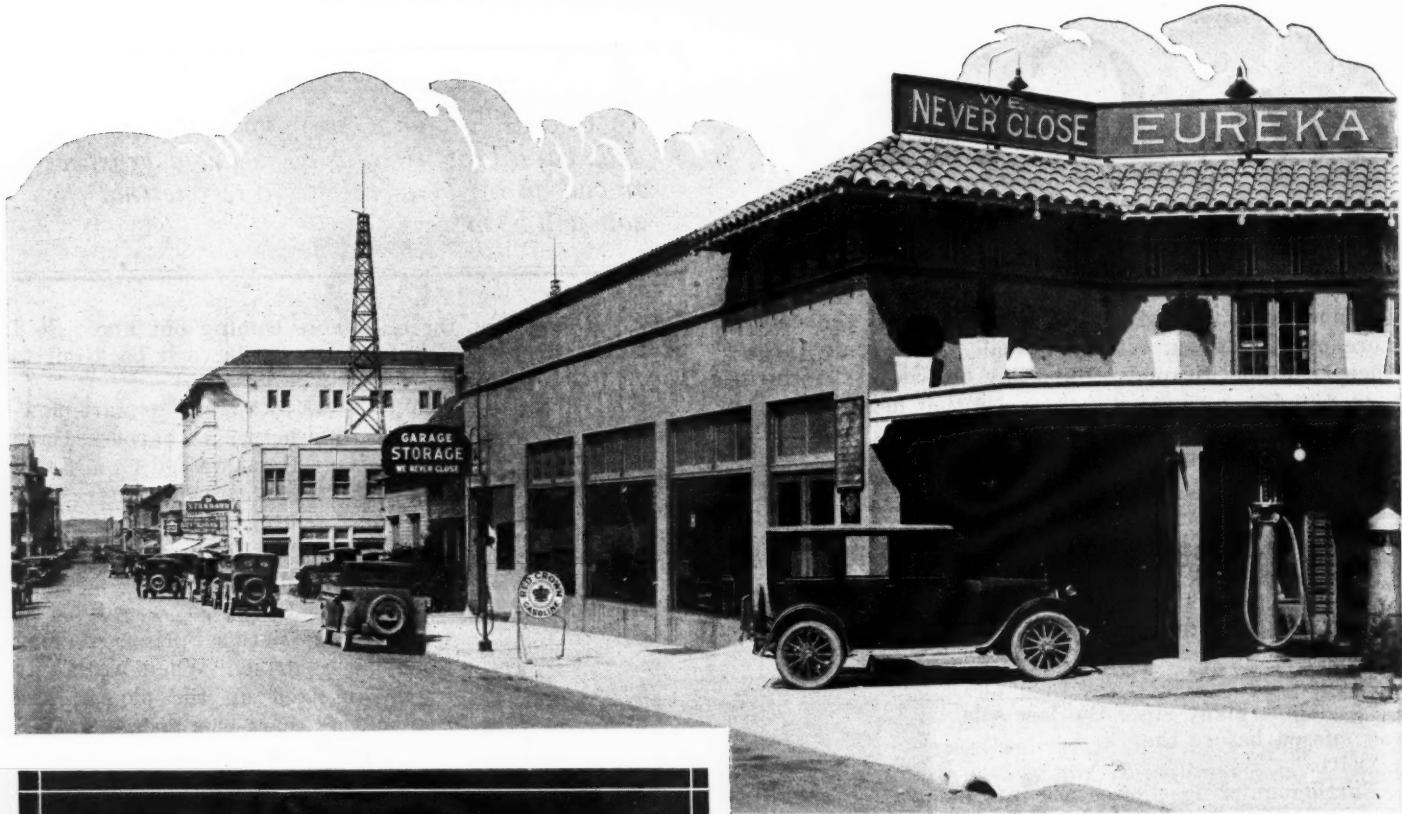
"Sure," was his affirmation. "How else would I get them?"

"From the house."

"Law, no," laughed George. "Life's too short to waste time that way. Lots of people come into the salesroom who haven't the money to buy. They just want to talk and kill time. But the fellows I pick up the other way have all got the money and I know it. I'm not going to waste time with some man who can't or won't pay the price of a car."

"As nearly as I can get it," I mused, "it's a case of 'Know thy neighbor's business'."

"I guess that is about it," he replied. "And after that, it's 'Get thy neighbor's business'."



*Above*—The Eureka Garage with its 230 feet of frontage and its unusual filling station decorated with dwarf shrubs and climbing roses, offers the motorist an invitation which is hard to refuse.

*Below*—The end of the showroom with mezzanine or balcony upon which is the office, stock room and women's rest room

THE Eureka Garage of Eureka, Cal., is owned and was built by L. E. Perske and he must be given credit for showing resourcefulness in taking advantage of natural conditions.

He is justly proud of his accomplishment and remarks at the close of a brief description of the place, "I could ramble on telling about the advantages for an hour, but guess I have said enough." As a matter of fact men with the ability to plan their buildings to get the most out of them are so scarce that all of us are glad to hear of their tricks.

The Eureka Garage is a building of many levels. As can be seen from an inspection of the exterior, the build-

## A Dealer Plant Sales and

By TOM WILDER

ing is on a corner around which the road has a downhill tendency. Not a steep grade but just comfortable. By placing the two entrances back well from the corner the upper one is entered at the service floor level, while at the other side—the low one—a drop of only 4 feet is needed to reach the basement floor.

The filling station on the corner is about half way between the two entrance levels and is on a level with the main showroom floor which has been dropped down to give a high ceiling and mezzanine office floor. At the right of the filling station is another showroom which is on a level with the service floor and reached from the street by a few steps.

The basement floor has only eight feet of headroom under the main showroom, but all the rest of the floor has an unusually high ceiling.

The mezzanine office floor contains also the women's rest room and toilet beside the stock room. Mr. Perske thinks this is the ideal location for a women's room, as it can be kept cleaner and is more private.

The two interior views show the manner in which the mezzanine floor is built at the back of the showroom and how the accessory counter is set back under it so that the



# Designed for Service

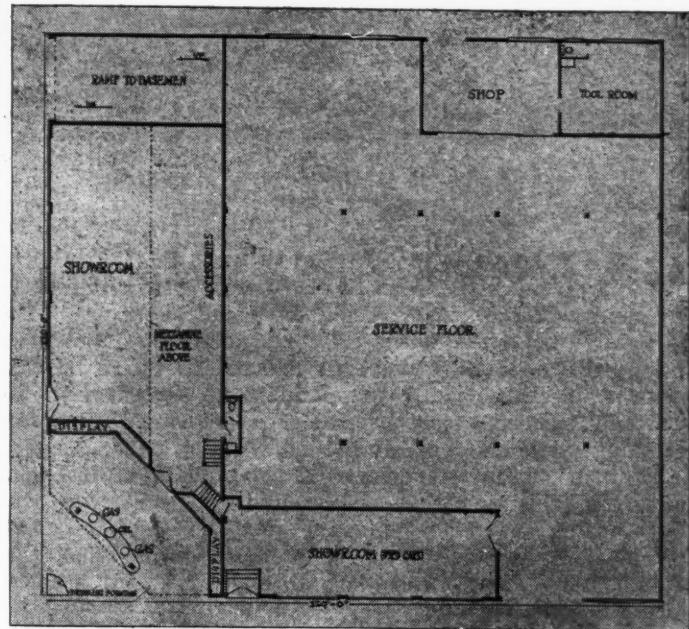
*Eureka Garage Housed in Well Laid Out Building Is a Complete Automotive Store Selling New Cars, Used Cars, Tires and Accessories, and Providing Storage and Service*

size of the showroom is very flexible giving a good display whether two or six cars are on the floor.

The size of the lot is 110 x 120 ft. The basement is used for storage exclusively. Here the columns supporting the main floor are spaced 16 feet apart. This is wasteful space but as Mr. Perske says, "We find this much more satisfactory, as we don't have as many bumped fenders and scratched cars. A little more space and a better satisfied customer."

Another unusual feature in this basement is a 10,000 gallon per day free flowing spring. This is harnessed with an automatic electric pump and gives an independent water supply.

The ramp from street to basement is very easy and can be taken by most cars on high gear, being only 12½ per cent.



*Plan of the main floor showing position of showrooms, ramp entrance to basement, and shop and mezzanine locations*

The showroom to the right of the filling station is for used cars. The show windows arranged around the filling station are 12 feet wide and three feet deep and are provided with three portable shelves to increase the capacity for showing accessories. It will be noted from the photographs that tires and accessories constitute an important part of this business.

The filling station is crowded into a minimum space but is all right where city authorities will permit cars to extend across the sidewalk while being filled. Oil is handled from the basement tanks by compressed air. Free air may be had from curb fixtures on both streets without in any way interfering with operations in the filling station.

Low growing shrubs and climbing roses are used to  
(Continued on page 32)



*Mr. A. Jeffers and his son, Neil, who work together on service jobs.*

**Y**ES, it is just 17 years since I started in as a mechanic with Studebaker. Things were different then. Long days and short pay. No starters, practically no closed cars, business practically dead in winter, no flat rates." Mr. Jeffers, veteran mechanic with the Studebaker Corporation in Chicago, seemed to reflect and then added, "But things certainly have changed since then."

Back in the days when windshields and tops were sold as accessories and the carbide gas generator was the latest thing in efficient lighting, Mr. Jeffers joined the Studebaker service force. It seemed to him that the automobile industry was likely to develop and it seemed logical to conclude that it would offer certain very definite advantages to the mechanics. He was right. Accordingly his old job of street car repair man was given up and a position new to him, and not so very old to any person at that time, was taken.

In those days industry as a whole was beginning to recognize the value of specialization. For men to become particularly proficient in some few operations was proving more

*The comfortable Jeffers home. Surrounded by a well kept yard, and shaded by trees and vines, this offers complete rest and relaxation after a busy day*



# To Mr. Jeffers

# Flat

# Means a

*Veteran Mechanic Earns \$7 a Week  
More Working Eight Hours a Day  
Than He Was Able to Make  
Working 10 Hours a Day Under  
Old Hourly Rate Wage*

*By C. EDWARD PACKER*

profitable than to let them be "Jacks-of-all trades." And to Mr. Jeffers it seemed logical to specialize, and so he did. Rear axles and transmissions are to him an open book.

It was difficult then to work at full efficiency throughout the entire day. Light and ventilation were given but slight consideration. Equipment was scarce and none too efficient. The hourly rates were certainly no gold mine. Surely there was little real inducement to do any more than absolutely necessary to get by.

When it was necessary to work under a car the men were fortunate if they could find jacks and enough blocks of wood to raise the car. Dirty parts that were removed for repairs were scrubbed off with gasoline and a brush. Certainly this was an expensive and dangerous procedure. Speed wrenches and power tools were hardly known. But slowly the necessary equipment was added. Powerful and safe chain hoists and steel supports displaced the jacks and wooden blocks. A modern cleaning vat that made the parts as clean as new took the place of the old

gasoline bucket and brush. Every power tool or speed wrench that would improve the job or speed up the work was purchased. But the mere addition of equipment did not bring about any great improvement from the mechanics' point of view and certainly did not prove profitable to the shop.

Facilities for speeding up the work cost money and a fair return on the investment was to be expected. But with service being sold on the

# Rate Home

hourly rate the equipment was a liability, for it tied up capital and reduced the revenue of the shop by decreasing the number of hours per job. To the mechanics this was a clamor for the tendency was to make up this loss by employing men at a lower rate. That was not the answer.

Those in the executive positions realized that there must come a change if the service department was ever to be an asset to the organization. Flat rates to the customer was the answer several years ago. That assured a just return on the investment in special equipment. Things were infinitely better. Service was being sold the same as any other commodity—on a price that took into consideration the average cost of the job, plus a fair margin of profit. But the problem was only half solved.

If it was fair to the customer to quote a flat price on any particular operation as based on experience gained from doing many such jobs why would it not be just to pay the mechanic a set price for his work also. After much consideration and calculation a plan of this kind was worked out. Of course there were some who predicted its utter failure, but that was a few years ago and today all of the boys in that shop are strong for it. Absolute fairness was necessary to enable this plan to work out. The confidence of the mechanics is the main requirement in adapting a plan of this nature to any organization, for from time to time adjustments in the rates may be needed and if the revision is downward it will be necessary for the men to see the reason if harmonious conditions are to be maintained.

The fact that labor turnover is practically eliminated here is pretty fair evidence of the way the men feel toward this plan. But why should they not be satisfied when their annual average earnings are from 20 to 50 per cent higher than they ever were before?

## Flat Rates Help Buy a Home

The value of money, however, is determined by what it can do and in the case of Mr. Jeffers the value is high. His earnings under the flat rate plan to customer and mechanic average \$7 a week more, working eight hours a day, than he was able to make under the old hourly rate of compensation, working 10 hours a day. These extra earnings have enabled him to buy his own home and the extra time he has gives him an opportunity to enjoy that home.

A home of one's own is a mighty fine investment in



*"Some difference," remarks Mr. Jeffers, "in these cars now and when I first started working on them"*

health and happiness as well as a sound financial investment. Comfortably situated, as it is, out from the noise of industry, and surrounded with a well kept yard it offers a source of relaxation that makes every day a day of new opportunity instead of just another routine affair.

Different, indeed, is the new order of things. Years ago it took Mr. Jeffers ten hours a day to accomplish less than he does now in eight. The extra two hours each day mean much in the way of rest, relaxation, play or study.

"In addition to making it possible to earn more money in eight hours than I could formerly make in ten I now feel independent," Mr. Jeffers remarked. True, piece work, or flat rates, or whatever one prefers to call it, does give a man a chance to practically be in business for himself without having to stand the risk and meet the bills. When business booms and he works hard, income may double, and when business slackens a little the profits are not so great. Even so it is in the private shop or large business. Now a man is paid in proportion to his results and should he prefer to "take it easy" some day, he will not feel inclined to hang his head when the "boss" hands him his pay envelope.

As to how thoroughly satisfied Mr. Jeffers is with his present position one may judge by the fact that his son, Neil, is now working with him. Neil is ambitious and is saving his money to continue his education. After completing his schooling he intends to return to the job. The eight hour working day will make a night school course not only easy, but also highly profitable.

# Sales Manual Helps to Handle Used Cars

By RUEL McDANIEL

"**T**HERE are no sales instructions like those down in black and white; and it is mighty difficult to find a general sales manual that will fit your own particular needs quite so well as your own, even though yours may not be so polished. At least we have found that true." Thus Charles D. Welty, sales manager of the Alex Clark Motor Company, Hudson-Essex distributors at Houston, Texas, explains the why of the company's method of instructing its salesmen, dealers and dealers' salesmen.

Through its several years of experience in handling salesmen and dealers the company has found that the average salesman and dealer meets with about the same general problems, such as lack of knowledge of the product, approach, closing a deal and handling the used car problem. By gradually compiling the answers to the average man's problems the company has assembled a sort of home-made sales manual which is doing exceptional work in keeping salesmen and dealers on the right track and enthusiastic over their work.

This manual places a great deal of stress upon the used car problem and how to meet it. These instructions, given orally and through the manual, have been so useful to Mr. Welty and his force that they are well worth the reading by anyone connected with used car merchandising in any form.

He says:

"Salesmen quite often find it very embarrassing to meet a man on the floor who immediately asks, 'How much money will you give me for my old car on your car?'

"Once and for all I want to impress upon you that all the statistical reports over the country show that never has there been a sale made by immediately telling a man how much you will give him for his old car. Usually such a prospect is more interested in selling his old machine than he is in buying your new car.

"It is imperative that you get some committal from the customer as to what he would sell his car for before you ask the company to appraise his car. We have assumed that before the appraisal of the old car enters into the deal, the salesman has thoroughly sold his prospect on the new car. Under no circumstances should an appraisal be made unless the prospect has ridden in a new car.

"Get the prospect to commit himself, that he prefers a Hudson or Essex car, get him to make the statement that he is not just shopping around. Tell him you think our Used Car Buyer (do not call him an appraiser) is liberal in the prices he pays for used cars, then when you get the appraisal, express satisfaction to the prospect in the liberal price offered.

"The first step in the sale is to make him want our car more than he wants his own; then he is in a frame of



No "appraiser" here.  
He is a used car  
"buyer"

mind to learn that his car is only worth about one-half what he thinks it is. A shock appraisal should by all means be used. This can be done in a number of different ways; either by naming no figure at all and stating that you know it to be very little, or by quoting a figure that you know is lower than the price he will eventually put on it. This accomplishes two things. First, if your customer permits you to continue on with the sale it is an indication to you that you are proceeding along the right lines and that you are succeeding in the sale. Second, the mind of the customer is prepared for the actual appraisal figure which will be put on his car at the proper time and it will not be difficult to bring him to a satisfactory close.

"When there is a difference between the appraisal on a used car that we quote and that made by another company, get your pencil, show the customer figures of the difference between the cash value of our car and other cars. If this does not prove the point, show him the difference in used car values and depreciation over one, two or three years.

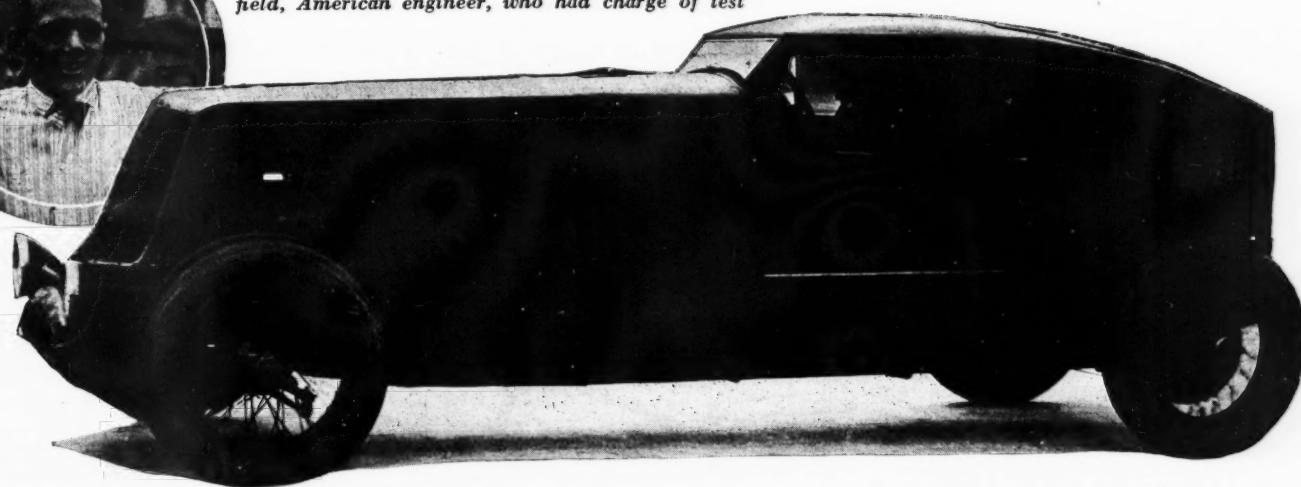
"Watch 'orphan' cars even more closely than off-makes. There is nothing more discouraging to the sales manager, used car manager or to the salesman himself than for the salesman to get a line-up of prospects who have such orphans as Allens, Grants, Imperials, Jefferies, Saxons, Haynes, Libertys and Columbias. Big cars are also very bad to take in by the dealer in low-priced cars. Such trade-ins might easily be disposed of by the high-priced dealer, but we are wasting our time and labor when we try to handle such deals.

"Another class of trade-in that does not pay is the open car of any make. With the present tendency toward the closed car it is suicide for any dealer to stock up with a large number of open model cars. Still another class of trade-in that is not looked upon with enthusiasm by the house is the late model of any line, including our own Hudson-Essex. For the reason that depreciation on an automobile during the first year is so great that you either antagonize the prospect or if you make a satisfactory

(Continued on page 32)



Renault car in which new 24-hour record of 107.89 M. P. H. was established. In circle: Ellery Garfield, American engineer, who had charge of test



# 2589 Miles in 24 Hours Sets New World's Record

*Renault Car of 556 Cubic Inches Piston Displacement Makes Average of 107.89 Miles Per Hour with American Engineer in Charge*

By W. F. BRADLEY

ELLERY GARFIELD, American engineer of Salem, Mass., is entitled to much of the credit for the world's 24-hour record established on a Renault automobile at an average of 107.89 miles an hour, running on Montlhery track, near Paris.

In charge of experimental work at the Renault factory, Mr. Garfield was instructed by Louis Renault to attempt to capture the world's 24-hour record, then held by Bentley at an average of 94.9 miles an hour, and for this purpose he had to make use of the firm's standard six cylinder model of 110 by 160 mm. bore and stroke, giving a piston displacement of 556 cubic inches.

The record was broken by the substantial margin of 318.8 miles, the Renault having covered 2589.4 miles compared with 2270.6 miles for the Bentley. Mr. Garfield worked on the principle that there are no unimportant details. The engine is a side valve job with thermosyphon cooling. To cut down head resistance, a special radiator was mounted in an inclined position entirely behind the engine, all the air entering through the front of the hood and being discharged through a gap in the underpan.

A single seater fabric leather sedan body weighing 134 pounds and having the gasoline and oil tanks inside it, was fitted to the chassis. Total height of the body, with the car on 33x5 inch tires was 67 inches. Mr. Garfield is convinced that the closed body gave an advantage in speed compared with an open type,

although he is unable to say to what extent, for comparative tests were not made. The main advantage, however, from a record breaking standpoint, was that the men drove in greater comfort and could observe the engine more closely.

No important changes were made in the engine. The standard Renault has forged duralumin rods, aluminum pistons, a forced feed lubricating system with an oil radiator and a centrifugal oil purifier. A thermometer was fitted on the base of the chamber and there was a thermometer on both the inlet and the outlet water pipes. In addition to the supply of oil in the engine base chamber, a reserve of 10 gallons was carried inside the body and could be made to flow by gravity to the engine while driving. The gasoline tank contained nearly 70 gallons, with gravity flow to the carburetors.

It was found that best results were obtained with three carburetors—one for each pair of cylinders, with a very simple type of Y-shaped manifold. By means of horizontal and vertical divisions on the inner face of the left hand portion of the hood, the three carburetors were really inside a metal casing, whereas the top portion of the intake manifolds were in close proximity to and were heated by the six short exhaust pipes.

A final gear ratio of 2 to 1 was used, but the axle design was not changed. On the standard model the Renault has

a forged duralumin housing with steel liners. Front wheel brakes were removed to avoid wheel shimmy; Renault hydraulic shock absorbers were fitted in front and Hartford's, with a special spherical mounting, on the rear.

In full running order the car scaled 5000 pounds, and with the gas tank three-quarters full the load was equally divided between the two axles. Having a maximum speed of 120 miles an hour, it was realized that tires would be the limiting factor. The original plan was to change all four tires every two hours, when the change of drivers was made. Mr. Garfield, who took the first spell at the wheel but was assisted by Plessier and Guillon, realized that at an average of 106 to 108 miles an hour tires would be good for only one hour, and he immediately made arrangements for one hour stops. Seated in the center of the car the drivers could see the front tires through the side windows and two mirrors gave them a view of the left and right hand rear tires.

The pit crew consisted of 14 men: 2 for each wheel, 3 for gasoline, one for oil and one inspector. The fastest change, which included four wheels, gas, oil, water and driver, occupied 52 seconds, but Garfield estimates that with slowing down and accelerating each stop cost him three minutes, or a total loss of 75 minutes. The only mechanical work done on the car during the 24 hours was the tightening of the rear shock absorbers.

# New Remy Switches

*Steering Column Light Control Has Called for New Type Switches at the Base of the Column. Circuits of Several of These Are Here Shown*

**I**N tracing the electrical circuits on some of the late model cars the electrician is certain to run across some of the recent Remy switches which are installed at the base of the steering column on such cars as Gardner, Paige, Jewett, Elcar and Velie. These, while similar in appearance, differ slightly in the matter of their internal connections and circuits.

## The Elcar Switch

On the Elcar the switch provides for current flow to the small bulbs in the head lamps and also for the double filament head lamp bulbs. On the other cars above mentioned resistance dimming is employed and even on the cars which employ dimming it will be seen in a close study of the circuits that the switches are not identical.

## The Velie Switch

Ten ampere fuses are used, these being readily replaceable. On the Velie it is necessary to reach down around the steering post and loosen a single wing nut which holds the switch cover in place.

*Diagrams and information were supplied through courtesy of the publishers of the Standard Auto-Electrician's Manual.*

## Pierce-Arrow Presents Two-Passenger Coupe

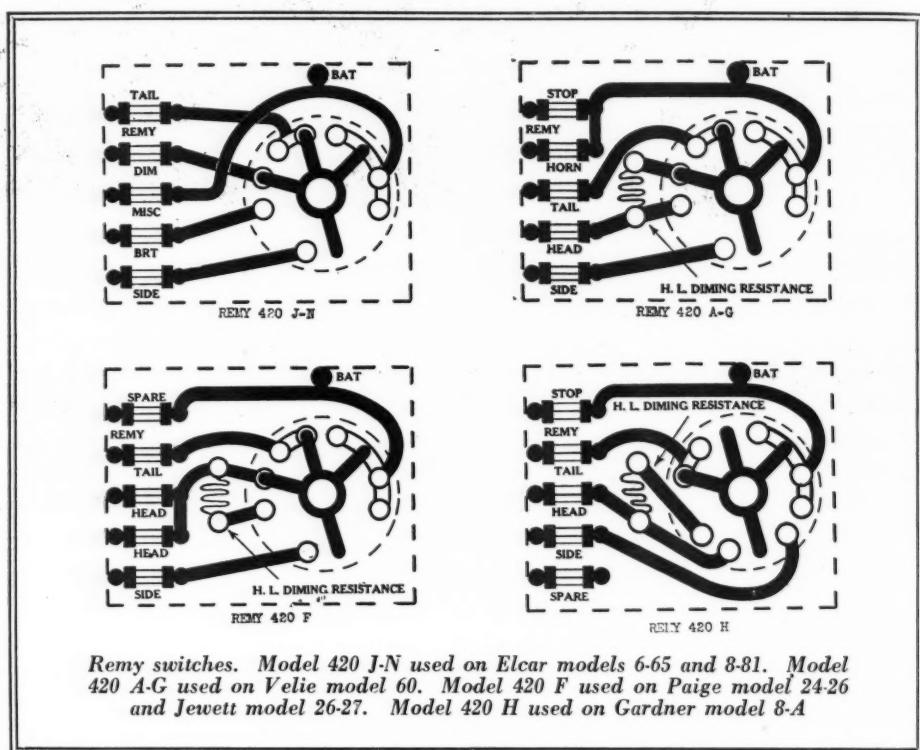
**A**TWO-PASSENGER coupe, priced at \$3100 at Buffalo, is Pierce-Arrow's latest offering on the standard 130-inch Series 80 chassis. The lines of this newcomer closely resemble those of the Series 80 Runabout, with the exception that this is an enclosed car. The top is set low enough to give almost an underslung appearance to the body, and is finished in black landau leather. Carriage bows add a touch of smartness.

The coupe body is of selected northern white ash, covered with thick hand-hammered aluminum plates. It is available in a choice of six color combinations.

Inside one finds luxury and ample room. The soft wool upholstered seat is 42 inches wide and tilted for comfortable driving. Houdaille governed springs insure further riding ease.

In the rear is a large compartment for golf bags, suitcases and other luggage necessary for a week-end trip.

Optional is a rumble seat for two, which folds and is covered by the deck when not in use. When the car is so equipped, the rear window is fashioned to raise and lower, providing communication among the occupants.



Remy switches. Model 420 J-N used on Elcar models 6-65 and 8-81. Model 420 A-G used on Velie model 60. Model 420 F used on Paige model 24-26 and Jewett model 26-27. Model 420 H used on Gardner model 8-A

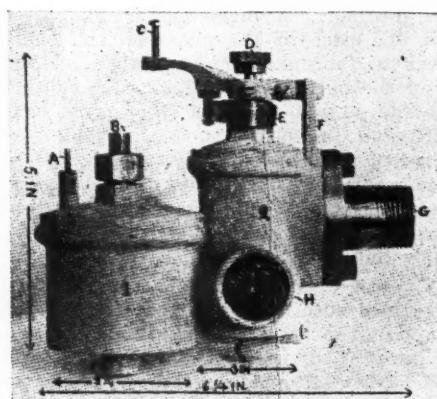
## Looking for an Old Carburetor

For reference to the Smithsonian Institution at Washington, D. C., A. L. Dyke, of 524 Granite Building, St. Louis, Mo., is seeking an original Dyke carburetor of the model introduced and manufactured by him about 1900. Mr. Dyke believes that his carburetor was the first float feed carburetor manufactured

in his quest, believing that some of the readers of this paper may be able to identify one of his carburetors on an old car. The illustration herewith is taken from a circular issued by Mr. Dyke's company about 1901 or 1902.

## Durant Booklet Tells How to Unload Automobiles

Since the manufacturer's responsibility for loss and damage ceases upon delivery of goods to carriers, automobile distributors and dealers recognize the importance of proper care in unloading car shipments. To assist dealers towards this end the general traffic department of Durant Motors, Inc., has issued an eight-page illustrated booklet giving suggestions for the proper unloading of automobiles, and for care in inspection of shipments.



Original Dyke carburetor

in America, and the Smithsonian Institution has asked him to undertake to furnish it with one of the original carburetors. Mr. Dyke has not seen one of them for many years and he has appealed to MOTOR AGE for help

## 150 Used Cars a Month Is Pace of Roberts

One hundred and fifty used car sales every thirty days, is the pace that has been set by the used-car department of the R. Knox Roberts Motors, Oakland-Pontiac dealers in Seattle.

This department is under the supervision of L. R. Pittmon in charge of the four branches. Part of the success is due to the excellent sales force, as no loafing salesmen are allowed in the way.

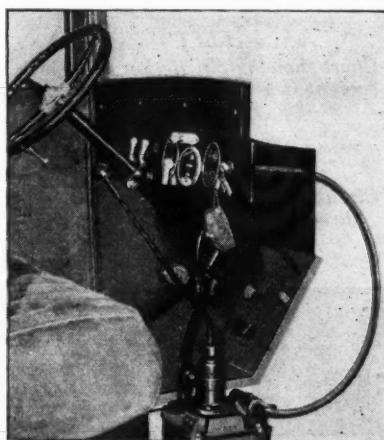
# Blossom Lock Works as Ignition Is Turned On or Off

A RECENT development for the protection of automobiles against theft is the Blossom coincidental lock made by the Blossom Lock Co., of Cleveland. When the ignition key is turned to shut off the engine the transmission is also locked.

The lock is mechanically operated, independently of the steering apparatus or any other emergency control.

Because of the almost inaccessible position of the lock housing behind the instrument board and the locking mechanism in the transmission cover, it is practically impossible for a thief to use his lock opening tools, and even though he were to penetrate the lock housing or transmission cover the mechanism of the lock would be so damaged that it could not be operated.

Operation of the lock, while comparatively simple, is at the same time quite positive. With the gear shift in neutral position, the key is turned to the left as far as it will go, then removed. Turning the key in this direction causes the worm in the locking cylinder to be drawn forward, thus the ignition contact ring on the outside of the worm nut becomes disengaged from the two spring switch fingers inside the lock housing, thereby



breaking the ignition circuit.

This forward movement is transmitted by means of a cable which extends through the flexible tubing, to the locking plunger in the transmission case cover. As the locking plunger moves forward it secures the locking ball between the lock plugs so that the shifting rods cannot be moved. When the key is reinserted for unlocking, this process is reversed and the car is ready for operation.

under the frame members, is the mounting of the ends of the springs between a pair of semi-circular bronze blocks, with provision for taking up lateral play. Wire wheels, carrying 860 by 160 clincher bead tires, are standard equipment.

With a wheelbase of 138 inches, track of 56 inches, the length available for body (dashboard to tangent of rear wheel) is 80 inches.

## Armature Winding

A BOOK which goes very thoroughly into the subject of rewinding automobile type armatures is known as Rewinding Small Motors, by Braymer and Roe, and is published by the McGraw Hill Book Co., 370 Seventh Avenue, New York City. The book is divided into two parts, the first being devoted to small direct current armatures such as are used in the generator and starter and the second to small alternating current motors.

The first thought of the automobile service man who might be interested in rewinding automobile type armatures would be that he would not be interested in small alternating current motor winding. However, after a shop or business has been established it is often desirable to be able to take on additional lines. The same wire, insulation and other materials that would be used on automobile type armatures could be used in motors for washing machines and other appliances.

The first portion of the book takes up items such as making and using a growler, taking data on a job before starting repairs, stripping direct current armatures, recording the coil and commutator throws, insulating the armature, building up new cores, how to make slot wedges, loop windings, left hand and right hand windings, and many other points that the armature winder should know about. Several chapters are devoted to special types of windings and one is specifically devoted to automobile starter and generator armatures. One chapter is devoted to connecting up hand wound armatures and another to testing armatures while and after winding. The second portion of the book gives similar information on stripping alternating current windings, insulating slots and applying the various types of winding. It also gives a chapter on testing single phase motors while and after winding and in the final chapter gives a list of repair shop tools. The price of the book is \$2.50.

## Delage Announces Six with 137-Inch W. B.

PARIS, Aug. 10—(By Mail)—Delage has just announced a medium size six cylinder model having a piston displacement of 193 cubic inches and a chassis of 137 inch wheelbase, which will be presented to the public at the forthcoming Paris Salon.

Up to the present Delage has specialized on a four cylinder model of 129 cubic inches and has built a limited number of high grade sixes of 363 inch piston displacement. The new six, it is said, has been brought out to meet the growing demand for greater flexibility than can be secured from four cylinders. Having a pronounced external resemblance to the firm's existing models, the new Delage comprises six cylinders in one casting, of 75 by 120 mm. bore and stroke, with detachable iron head having vertical valves operated by pushrods and rockers from a chain driven camshaft in the aluminum basechamber. The cylinder holding down bolts are concealed by detachable aluminum plates, and the Smith carburetor, manufactured in the Delage shops, is bolted up direct to left hand side of engine and is fed from a two gallon vacuum tank on the forward face of the aluminum dashboard.

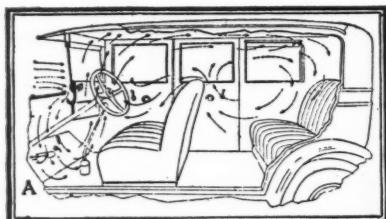
A circular web seven-bearing crankshaft is used; connecting rods are I-section and pistons are built-up type

of cast iron and aluminum. The electric generator and the magneto, with semi-automatic advance, are in tandem on the left hand side, with the water pump in the same line but ahead of the timing gear housing. Crankcase webs are platform type, brought up to the side rails, with attachment to them by six pairs of bolts. Lubrication is full pressure type by a gear pump-driven off the cam-shaft.

A single plate clutch is used, together with a four speed transmission, the housing of which forms a unit with the engine and has change speed and brake levers mounted on the top of it. Drive is transmitted through a single universal joint shaft contained in a torque tube, to a spiral bevel gear contained in a banjo housing. Steering can be mounted either left or right hand.

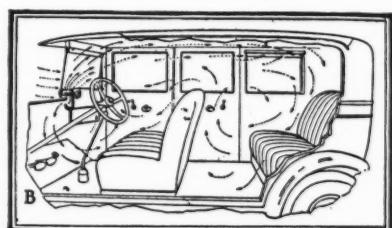
The four wheel Perrot brakes are operated by pedal through a Dewandre vacuum servo mechanism, the cylinder being placed on the right hand side of the gearbox. There is a separate hand control of the four brakes, without the servo. It is claimed that the brakes will arrest the car within a distance of 50 yards from a speed of 62 miles an hour. The only distinctive feature of the suspension, which is by semi-elliptic springs front and rear, both sets being directly

# How Studebaker Ventilating Windshield Works



LEFT

Chart showing circulation when air current is directed down under the cowl



RIGHT

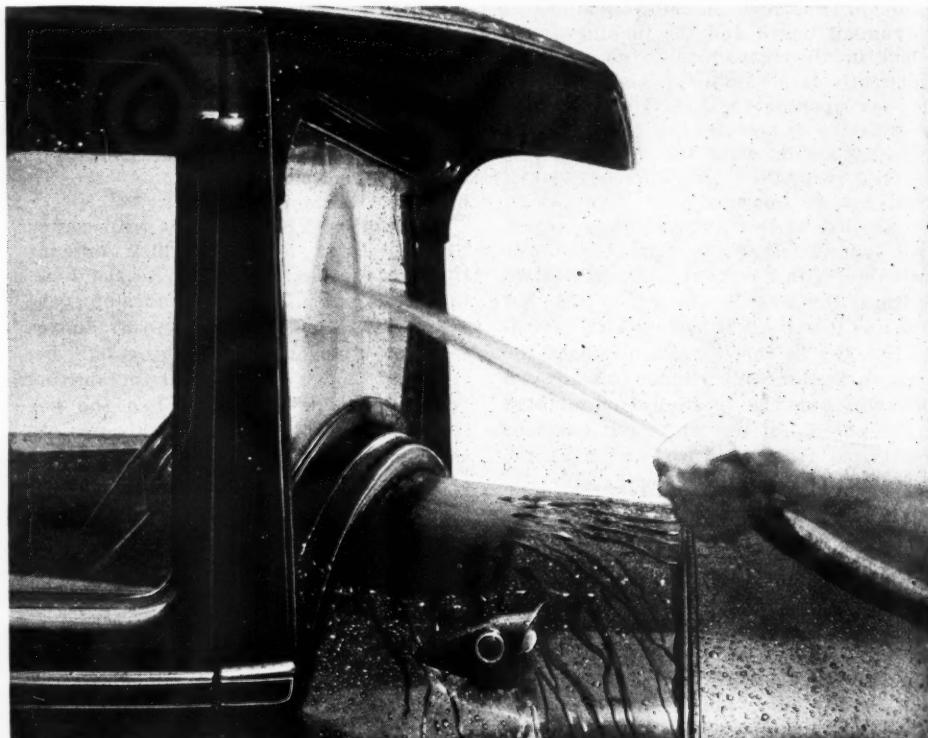
Circulation when air current is directed toward roof of the car

## New Device on Custom Sedans Provides Protection Against Rain

THE ventilating windshield which is a feature of the new custom Studebaker models is designed to allow free circulation of air even in the heaviest rainstorm without permitting rain to be driven into the car.

By means of a handle conveniently mounted on the dash of the custom sedans, the windshield may be tilted inward and a flood of fresh air directed down under the cowl. But, fresh air is all that may enter the car. Rain is carried off to the ground by troughs hidden beneath the cowl. Even the concentrated stream of a hose cannot drive any moisture past this cleverly devised barrier.

In pleasant weather, the air current may be guided toward the roof of the car by tilting the windshield outward, or the shield may be so adjusted as to form an airtight barrier against cold. This ventilating system is a guarantee against drafts, for the current is so directed as to circulate throughout the entire car without blowing directly on the passengers.



The ventilating windshield on Studebaker custom sedans

## Fageol Enters Light-Truck Field

The Fageol Motors Co., San Francisco, has placed on the market a new truck intended for use in the light truck field, but really of heavy-duty design. The truck, to be known as the "Fageol Flyer," is offered in one to two or more ton capacity. In its announcement accompanying the presentation of the new truck at the factory branches here and in Oakland, "heavy duty design" is said to be "based on that of Fageol trucks of greater tonnage, the basic thought being to produce a truck for light service which would have unusual strength and stamina."

The new truck is powered with a Waukesha four-cylinder motor, of four-inch bore and five-inch stroke. Ignition is Robert Bosch magneto and American Bosch starting and lighting. Transmission is Brown-Lipe. Timken axles are used, the rear being full floating, bevel-

gear, type, and the front being I-beam drop-forged.

Quarter-inch pressed, heat-treated nickel-steel, with five-inch well and three-inch flange, forms the frame, which rests on springs of heavy-duty chrome vanadium. The front springs are 37x2.5 inches, and the rear 56x3 inches. There are six leaves in the front springs and nine in the rear.

Simplicity of steering is provided in the new Ross cam-and-lever type. Comfort of the driver is looked after by well cushioned seat, and an all-metal cab arrangement, including two-piece windshield, quick-adjustable side curtains, and full touring-car upholstery in genuine leather.

The front wheels and the rear dual-wheels are Budd disc, equipped with 30x5 cord tires. A spare wheel on a carrier is provided as standard equipment.

Wheelbase is 156 inches, allowing ten feet back of the cab to the end of the frame, which has a width of 34 inches. The rear axle is set 33 1/4 inches from the end of the frame, to give better distribution of load. The top of the frame is 26 inches from the ground, giving a low center of gravity.

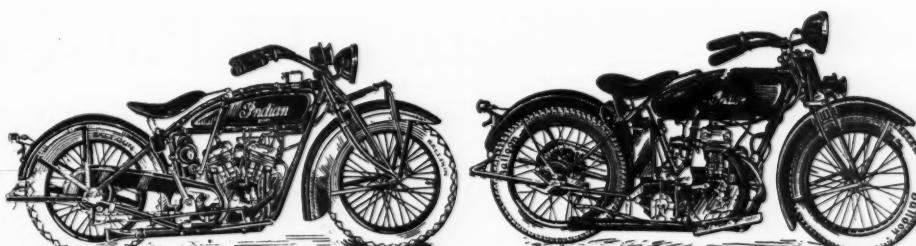
## Inter-American Meeting of Aviation Experts in 1927

The Governing Board of the Pan American Union in Washington has designated May, 1927, as the date for the convening of the Inter-American Commercial Aviation Commission, provided for in a resolution adopted at the Fifth Pan American Conference at Santiago, Chile, in 1923. This will be a meeting of technical experts for the purpose of considering aviation routes, landing stations customs regulations, etc.

# Indian Motorcycles Improved for 1927

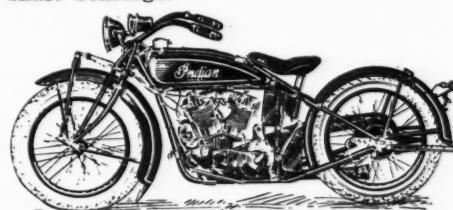
THE 1927 models of Indian motorcycles are marked by improvements which make better looking and quieter running machines. The Indian line now consists of four models: the Scout, the Prince, the Big Chief, and the Chief with Princess side car.

The Prince, a single cylinder light vehicle, has been improved in appearance largely through the use of smaller wheels and larger guards. Riding position is improved, making for simple handling in congested traffic and the guards tend to afford greater protection to the rider against dust and road splashes. A heavy multiple disc type clutch and new clutch control mechanism serve to improve the engaging and releasing operations. The hand clutch continues to be standard but a foot clutch is a new feature which will be optional. Another new feature on the Prince is a change in the position of the generator with relation to the driving pulley. This eliminates the former chain drive. Chief among the Scout features are the new designed wider mudguards. These provide better protection from dirt and road splashes and give greater clearance for removing wheel. Another feature is an improved muffler. This reduces exhaust noises 50 per cent. Other Scout improvements are alemite fittings, new saddle



New Indian Scout model at left and Indian Prince model for 1927 is shown at right

and improved spring suspension, valve release removed from side of tank and inserted through it, drain oil rings, lower battery box position—to permit greater action of saddle, removable side on box for accessibility, heavier and larger foot brake, kick starter fastened by set screw so it can be removed when occasion requires, and larger cam shaft and cam shaft bearings.



The Big Chief Indian motorcycle for 1927

The first important change which is noticed on the 1927 Chief is removable cylinder heads. With this one change all Indian models now become known as having the same type motors, as both the Prince and Scout have removable heads. The greatest improvements on this model are found in the motor and they are: New designed cast iron pistons of lighter weight tending to reduce vibrations to a minimum; drain oil rings; sump in motor base, affording greater lubricating facilities and a reserve supply of oil; connecting rod lower bearing fitted with a groove and also groove in intake valve tappets, providing added lubricating features. The Chief is also equipped with new designed muffler and improved valve release, similar to Scout.

## Compounded Rubber Makes Good Showing in Endurance Tests

THE following conclusions have been reached as to factors which influence the life of tires, according to a paper which has just been issued by the Bureau of Standards, Department of Commerce.

(1) A carcass in which the friction rubber is slightly compounded appears to stand up better under test than one in which "pure gum" is used.

(2) Within the customary limits of air pressure used in tires, the higher the pressure the better the tire will stand up.

(3) Fabric tires develop a much higher temperature than cord tires, and their life is much less than cord tires.

(4) Separation, which was the principal cause of failure in these test, did not always take place in the same location in the tire. It occurred in most cases between the tread and breaker, breaker and cushion, cushion and carcass, or between the outer two plies.

(5) Any particular brand of tire usually showed a characteristic type of failure.

(6) Some makes of tires "blow out" much sooner after separation has started than others.

(7) Compound inner tubes for truck tires appear to withstand the action of heat better than those of the pure gum type.

It is interesting to note that of the tires tested, in general not more than one

half the samples passed the test requirements, although a general improvement was noted during the period covered by the tests in the case of some tires.

The publication briefly describes the testing machines developed by the Bureau for this work. By using these machines it is possible to determine in 48 hours facts which would otherwise require several months use on the road. A table gives the results of the tests. Tires are identified by letters, manufacturers' names are not given.

This paper is known as Technologic Paper No. 318, and may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D. C., at 10 cents per copy.

### Dilution Checked by Novel Device

TO safeguard the Pierce-Arrow Series 80 engine from the harmful effects of oil dilution, in addition to the Winter Front and thermostatic control of water temperature, a novel device has been placed on the left side of the engine.

This device consists simply of a flexible tube connected to the air intake portion of the carburetor and to the cover over the valve lifters. This sucks the vapors from the warm oil into the carburetor where they are passed off into the exhaust, safeguarding against dilu-

tion and preventing unpleasant odors that arise from the ordinary breather.

This device is said to be more efficient than the ordinary breather pipe, because of the steady suction.

### Peerless Adds Standard Line of Three Body Styles on Eight Cylinder Chassis

ANNOUNCEMENT of a new 1927 model with three body styles in the Peerless V type 90 degree eight cylinder line is made by the Peerless Motor Car Corporation. The new body styles will be known as the standard models to distinguish them from the present custom built line of automobiles offered by the company on its eight cylinder chassis.

These are offered at prices several hundred dollars less than the present Peerless Eight custom built cars.

The five passenger coupe will sell at \$2795, the five passenger sedan at \$2995, and the seven passenger sedan at \$3095.

The standard models are luxurious and well finished. Upholstery is of mohair. Arm rests and smoking and vanity sets give the added touches of luxury.

Standard equipment is complete with bumpers and bumperettes, winter front, Watson Stabilators and a complete instrument board. On the coupes a well finished trunk is standard equipment.

On the five passenger coupe and sedan the wheelbase will be 126 inches. The seven passenger sedan will have a wheelbase of 133 inches.

# Reo Adds a Sedan Bus of 15 and 17 Passenger Capacity

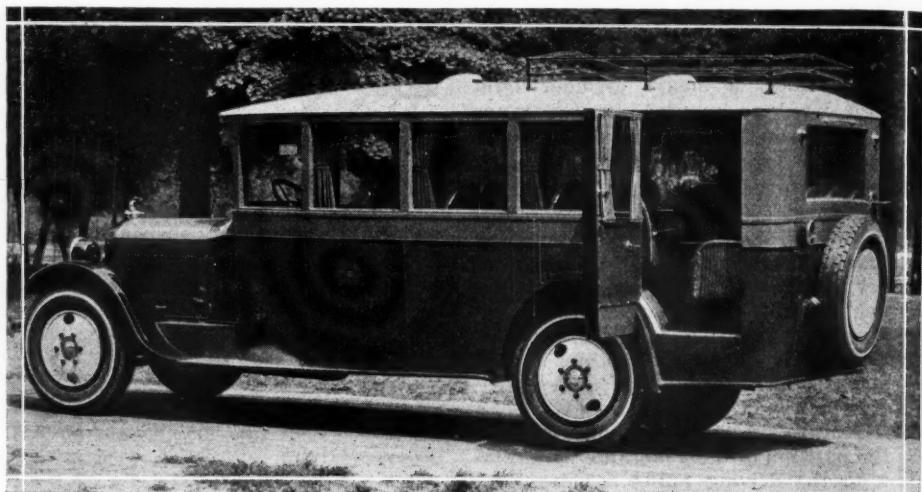
**A** NEW sedan bus has just been added to its line of bus models by the Reo Motor Car Co. The standard seating arrangement is four cross seats in wicker, trimmed in Colonial grey leather, with head linings to match and next to the driver's seat is a passenger chair making the capacity 17 passengers plus driver.

An optional seating arrangement is also offered which converts the bus into an "aisle job" of 15 passenger capacity and this model will have a double chair in the row to the left of the aisle and a single chair to the right.

The price of this new sedan bus with either seating arrangement is the same, \$5100. Tires on front wheels are 32x6 and on rear, 34x7.

The new bus bodies are being equipped with the combination visor and sign box and will carry luggage rack on the roof. In the 17 passenger model, which is the full cross seat job, there will be supplied a wicker hamper on the back of the next to the last row of seats which will hold small packages, two or three suitcases or even a traveling bag without cramping the leg room for the rear row.

In the 17 passenger job all passengers face forward while in the 15 passenger model all passengers face forward with



New Reo sedan bus with seating arrangement for 15 passengers

the exception of those who are seated over the wheel house, in which case the seats face the center.

Both models will be equipped with one door at the driver's elbow and three doors on the right side. When the model is seated for 17 passengers the entrance to the third row is obtained by folding

the right hand seat forward at the second door; when used with a 15 passenger seating arrangement the first door will constitute the entrance and the second and third doors on the right hand side will be provided with a lock so that the operator can operate with the doors locked or unlocked as he wishes.

## A Tire Chain Sales and Service Unit

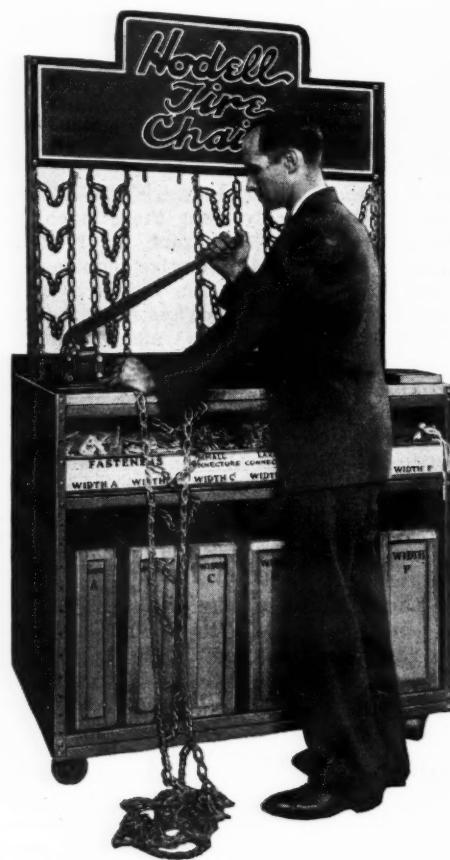
**A** NEW idea in selling tire chains is being advanced by the Chain Products Co., of Cleveland, manufacturers of the Hodell chains.

The principal feature of the system used by this company is a complete but compact sales and service unit furnished to the authorized dealer. With this unit the dealer is able to immediately make up complete sets of chains in any desired lengths. The unit comprises a strong steel cabinet with storage space for continuous length tire chain in six widths, together with necessary tools.

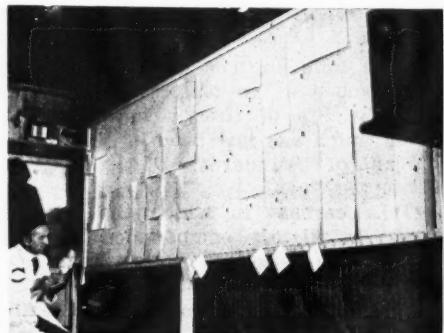
When a tire chain of particular size is required the dealer cuts the right length for the roll of proper width, using the cutter furnished with the unit, and then by means of a riveting set that goes with the outfit he attaches the fasteners and after closing the links has a completed product ready for service. The making up of a set of these chains in any size is said to take only a few minutes.

Bins are provided on the workbench side of the cabinet for fasteners, connecting hooks and bags, and similar bins at the front of the cabinet hold cross chains of varying length.

The dealer operating under this system buys the equipment and is licensed by the manufacturer.



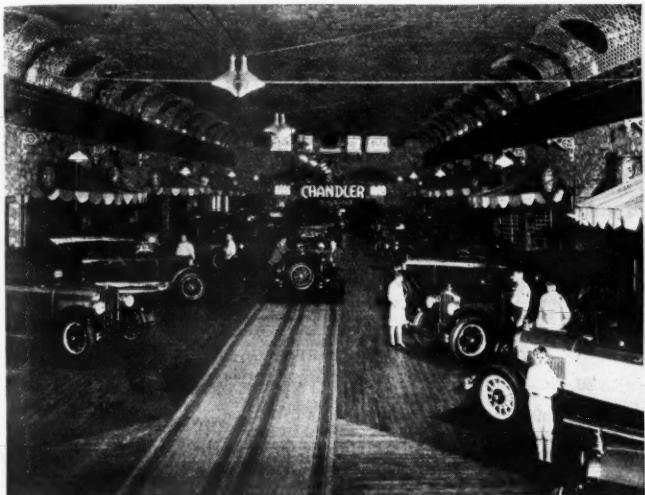
The Hodell tire chain unit for dealers



Operating Board Keeps Tab on All Jobs in Shop

An operating board is provided in the repair shop of the Chandler-Cleveland Motor Car Company in San Francisco on which the job requisitions are hung. Along the bottom of the board are hooks, one for each item on the requisition, on which the mechanics hang the cards stamped by the time clock to show the time spent on each item on the order. The number of cards on the hooks also indicates how many of the items have been finished. The advantage of this system to the foreman is that he does not have to keep in his mind the details of the different items on a job because a complete record is kept up to date on the board. Shop testers can tell when a car is ready for test, too, by watching the board.

# SHOWS and CLEVER STUNTS



A SPECIAL SHOW to introduce the new models to their dealers is the latest thing in merchandising this year. Here is the Chandler Show with a complete line of chassis and body styles in all the custom color combinations. A banquet and general jollification was also staged with plenty of entertainment



GENEVA, SWITZERLAND, AUTOMOBILE SHOW recently held, seems to play up Rickenbacker very prominently. Fritz Marti is distributor for Switzerland with headquarters at Berne.



AUTOMOTIVE TOYS are always popular with the boy youngsters. Here are tractors and dump cars and a fire engine that really squirts water. Won't mother like that!



SYMBOLS OF TRADE are disappearing; the Cigar Store Indian and the big boot of the Shoe Store are seldom seen now-a-days, but Stephenson & Watson, San Jose, Cal., have revived the Mortar and Pestle to individualize their Ford delivery car and advise people they sell drugs.



SLEEPING QUARTERS over the driver's seat are provided in an immense padded van built on a White chassis and operated by the Lincoln Transfer & Storage Company of Seattle. It is equipped with comfortable mattress and pillow, and enables one of the two drivers to sleep while the other is operating the truck—thus making a night and day run.

# SEVERAL NEW ITEMS TO SELL

## Gladiator Eaves

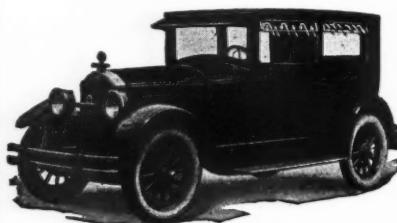
VENTILATION without drafts is the claim made by the Gladiator Mfg. Co., Auburn, Ind., for its Ventilating Eaves, which are being sold through the Zinke Co., 1323 S. Michigan Ave., Chicago. The Eaves are made of glass and are attached to the top of door and window frames on closed cars. With the windows partly lowered the air passes under the eaves while rain and snow is excluded. Gladiator Eaves are made for all models of all types of cars and because of universal features any car can be quickly fitted. Price per pair \$6.

## "John Crane" Replacement Packing

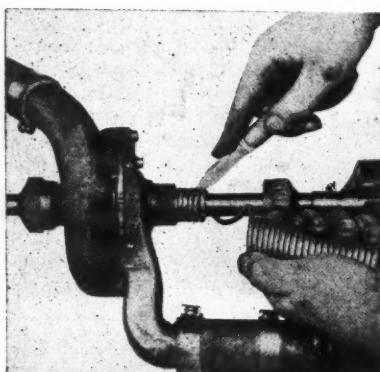
CRAINE Packing Company, 1800 Cuyler Avenue, Chicago, which for years has been producing the "John Crane" Metallic Water Pump Packing for original application by automobile factories, now announces a "John Crane Style 112 Replacement Service" which includes a package of packing for the car owner. This is in addition to the package containing 40 feet of the material for the garage man and service station.

The car owner's package of "John Crane" contains five feet of one-eighth inch babbitt foil packing, spiraled conveniently for use by the owner, himself. The five-foot length is usually enough of the material to pack two water pump stuffing boxes where packing spaces are unusually large.

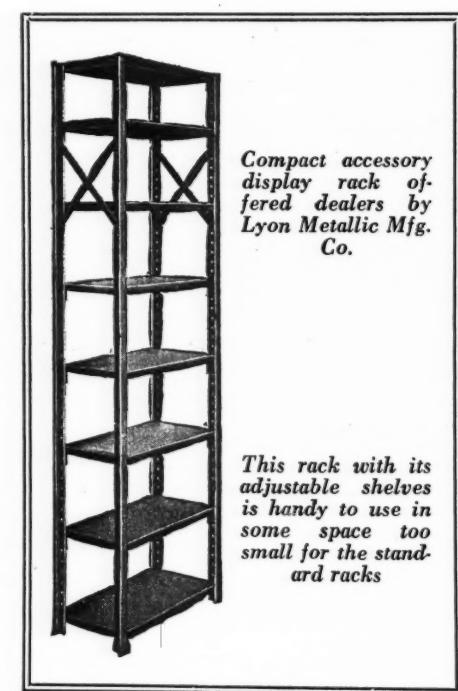
Style "112" is a soft, pliable and compressible material which is easily cut



Gladiator Eaves



"John Crane" Owner's Package



This rack with its adjustable shelves is handy to use in some space too small for the standard racks

## Accessory Display Rack

CONSTRUCTED to appeal to the automotive merchant desiring to keep items for sale well arranged and displayed in minimum space a special Accessory Display Rack has been brought out by the Lyon Metallic Manufacturing Company, Aurora, Ill.

This rack is two feet wide and seven high, exactly covering the ends of two Lyon Parts Storage Sections placed back to back. The eight adjustable shelves are each one foot deep, providing 16 square feet of storage and display space over a floor area of two square feet. The makers recommend this as a very useful rack for use against a supporting column or post in an unused space at one side of the door leading out of the store or accessory show room.

## DeLuxe Plate Lite

A NEW model Plate Lite is now being offered by the American Automatic Devices Co., Throop and Congress Sts., Chicago. This model combines twin driving lights and an aluminum license plate holder, which is adjustable to take care of any size license plate. The light can be attached to the cross bar connecting the front ends of the chassis frame, to the tie rod connecting the headlights or to the rear cross members of the front bumper. The manufacturer states that the device is designed to project its rays in a fan shape, lighting not only the entire road and ditches for a safe distance, but the turns of the road as well. Price \$10.

## Economy Vaporizer

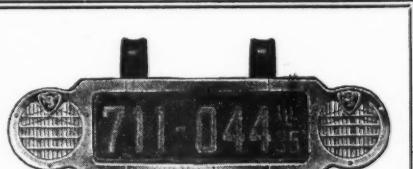
OF interest to Ford owners is the recent introduction of the Economy Vaporizer for use on all Model "T" Ford cars and trucks. This is a product of the Economy Vaporizer Company, 3029 Roanoke Rd., Kansas City, Mo. The Economy Vaporizer which is a combination intake and exhaust manifold is said to completely vaporize all grades of gasoline, without heating the air, and furnish uniform distribution of a gaseous combustible fuel mixture of proper temperature to all cylinders at all speeds.

Packed in individual cartons with shipping weight about 19 lbs. the Economy Vaporizer is priced \$12 f.o.b. Kansas City, Mo.

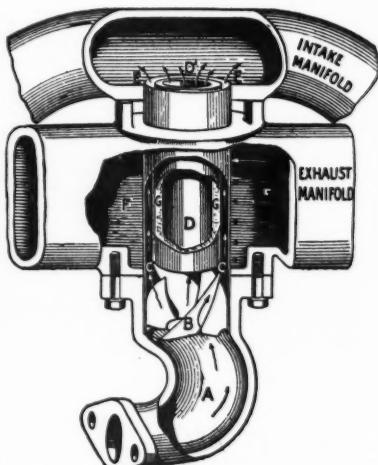
## Separation is Prevented

IN the description of Anchor Ball Bearing Shock Absorbers appearing in the Aug. 5 issue of MOTOR AGE there was an erroneous sentence which read: "The springs are strengthened by separation of the main leaves from the auxiliary leaves." This device strengthens the springs by preventing separation of the rebound leaf from the auxiliary leaves, and the item should have been worded to that effect.

Anchor Ball Bearing Shock Absorbers are a product of the Anchor Electric Company, 557-559 West Jackson Boul., Chicago.



De Luxe Plate-Lite



Economy Vaporizer

# The READERS' CLEARING HOUSE

Questions And  
Answers



On Dealers  
Problems

## Schebler Carburetor on Reo and Gardner

Q.—I would like to get some information on the Schebler carburetor used on Reo T-6 and Gardner cars. I had it in some previous copy of MOTOR AGE, but I have lost it.—L. Vilatte, Frederick Hotel, International Falls, Minn.

Instructions for making adjustment are as follows: Idle Adjustment—Turning the idle adjusting screw (A) to the right (clockwise) gives a lean mixture. Turning it to the left (counter-clockwise) gives a richened mixture. This adjustment is not sensitive and can be turned from three to ten notches without seriously affecting the idle.

The idle adjustment should be set so that by depressing the air valve slightly

(counter-clockwise) gives the driving range a lean mixture. Turning it to the right (clockwise) so that more of the threads of the screw (B) are exposed gives the driving range a richened mixture. To obtain the original setting as shipped from the factory, set the head of the range adjustment screw (B) flush with the range adjustment bushing (C). If the range adjustment is changed it is necessary to readjust the idle mixture.

High Speed Adjustment—This adjustment as shipped from the factory ordinarily need not be changed. This adjustment is not sensitive to one turn in either direction and is effective only at wide open throttle running. In changing this adjustment try it on a hill after each change for best results. In extreme cases it may be necessary to furnish a leaner or richer mixture for wide open throttle position. The adjusting cam tappet screw (D) is turned to the left (counter-clockwise) to give a richened mixture and turned to the right (clockwise) to give a leaner mixture.

To obtain the original setting as shipped from the factory, the head of the range screw (B) should be flush with the range adjustment bushing (C). With throttle wide open adjust the cam tappet screw (D) until there is about  $7/32$  to  $1/4$  in. space between the dash control lever (P) and the end of range screw (B).

## SHIMS PERMIT OIL TO LEAK

Q.—I noticed in last week's issue of MOTOR AGE some difficulty experienced by Duggleby's Garage, Medaryville, Ind., where they have a Hupp model R that is leaking oil at the rear bearing. In addition to the suggestions that you have already made we might add that this bearing is fitted with babbitt lined shims and it sometimes happens that these shims are not making good contact with the shaft, in which event considerable oil will be lost from the rear of the bearing.—Nipperink Garage, Fox Lake, Ill.

We certainly appreciate your interest in this matter and are sure our subscriber will appreciate your remarks.

## REAR AXLE RATIOS

Q.—Please give me the approximate number of times the engine turns over in the following cars in any given distance. Wish to know the relative speed of the engines.—Edson Bolles, 6907 S. Adams, Peoria, Ill.

The rear axle ratios which are given herewith are the most convenient means of comparing relative engine speeds. They are:

Star	4.87
Overland 4 cyl.	4.50
Ford	3.63
Oldsmobile Six	4.73
Oakland	4.73

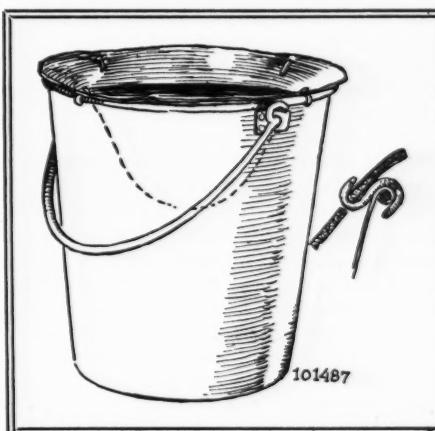
## Does Crankshaft End Play Harm the Rear Axle?

Q.—I wish to settle an argument in which one party has a Ford car with Rucksteel axle which was overhauled and then after less than 2500 miles it was found that both the drive pinion and the ring gear were chipped. One party claimed that this was caused by end play in the crankshaft and the other party claimed that end play in the crankshaft could not cause this trouble. By the way there was about  $1-16$  of an inch of play in the crankshaft.—Ord Battery & Electric Service, Ord, Nebr.

We will have to side with the party who claimed that end play in the Ford crankshaft could not possibly cause the rear axle gear to become chipped. You will recall that end play in the drive shaft is limited by a babbitt bearing at the front of the drive shaft tube. This babbitt bearing is faced off at its front to form a thrust bearing for the rear of the universal joint. At the rear of the drive shaft housing is a ball thrust bearing. These two bearings limit the amount of end play in the drive shaft. In view of the fact that the universal joint is a sliding fit in the transmission shaft you will see how impossible it would be for end play in the crankshaft to affect the rear axle gears.

## HAT AS A FILTER

Q.—In a recent issue of MOTOR AGE the question was asked about making a cheap oil filter. For this purpose, felt offers an ideal filtering medium and can be used in many forms. About the cheapest arrangement I know of and that will really do the work, is an old felt hat supported in the top of a bucket by tying the brim to the rim of the bucket. This outfit looks rather sloppy but the idea can be applied in any one of many ways to suit the builder.—R. L. Rumely, 3020 Sheridan Road, Chicago.



Cleaning oil by running it through felt

Points of Adjustment on Schebler

(about  $\frac{1}{2}$  to  $\frac{1}{4}$  in.) the engine will start to cut out, showing that the mixture is about right. If the mixture is too lean the engine will stop when the air valve is depressed slightly. If the mixture is too rich the engine will speed up slightly on depressing the air valve and the air valve will have to be depressed considerably before the engine cuts out.

Important—If the idle adjustment is turned to the right (clockwise) too far the air valve will not seat, since the needle is shut off too far. Turn to the left or (counter-clockwise) until air valve seats and adjust as explained above.

Range Adjustment—This adjustment is only effective in the driving range at speeds from 20 to 40 miles an hour and does not affect acceleration or hill climbing. This adjustment as shipped from the factory will usually be found to be the best unless it is necessary to give a lean or richened mixture at speeds from 20 to 40 miles an hour. Turning the range adjusting screw (B) to the left

# Planning Your New Building

By Tom Wilder

## Nash Dealer Wants Nifty Waiting Room



Q.—We are planning to make an attractive waiting room in our service station. The space allotted is about 10 by 22 feet. There is plenty of head room and it was our thought that we could construct a small bungalow which would be novel and practicable.

Have you any sketches of waiting rooms which might be of help to us in laying out ours?—W. G. Toland, Nash-Newark, Inc., Newark, N. J.

You have asked us for a plan for a bungalow waiting room but we are "going you one better" and suggesting that you make your bungalow outside so that you can get the benefit of the advertising it will give you.

If it is built inside it will never be seen except by those who visit your service department and these customers you already have, while if it is outside, women especially will see that you have a nice cozy comfortable place in which they can spend a pleasant half hour or more reading a short story or gossiping with a friend.

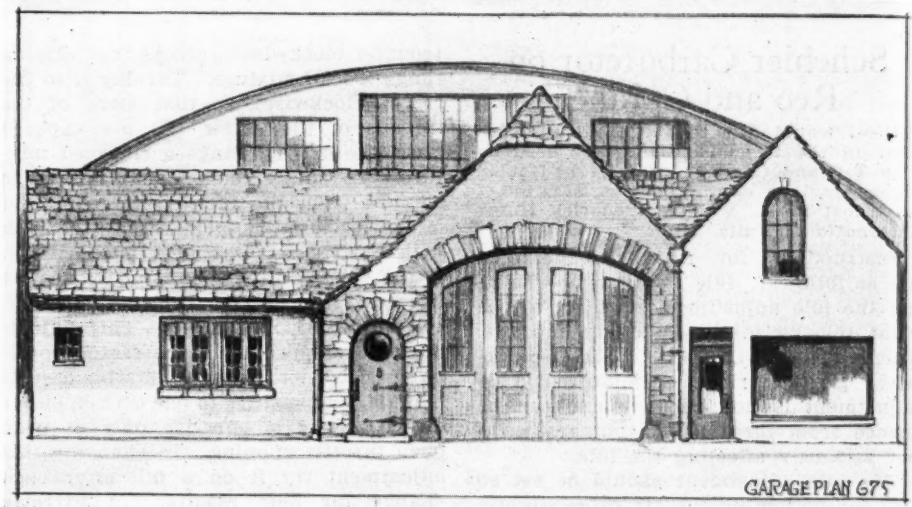
An exterior such as we have shown will appeal to men as well as women and as the space is hardly large enough for two rooms, it might be better to place your service office on the other side of the entrance so that all the space could be used and it would then accommodate two rooms, one for men and one for women.

The reconstruction of the front of the building would cost quite a little but it would make the inside cost less and this would reduce the complete cost.

The main point to be considered is that the expense of the improvement should rightly be charged to advertising and if it is installed inside your old building it is not going to be a good advertisement since you will be obliged to resort to advertising to let people know it is there so they can use it.

If it shows from the outside it will do its own advertising, it will advertise your service linked with the fact that you have your customers' comfort in mind. This latter point will go a long way toward promoting sales of new cars as every purchaser of a car nowadays is interested in knowing how he will be treated after his car is paid for and this will be a visible sign of good treatment.

To make a long story short, if you are going to spend good money to build a novel waiting room make it work for you instead of adding to your overhead.



*An exterior such as this would make the natives of most any community sit up and take notice. In the plan the dotted lines show a two-room layout, one for men and one for women, the service office being removed*

## LEGAL QUESTIONS ANSWERED

By Wellington Gustin

### LIEN NOT EFFECTIVE

Q.—We have taken possession of a car on which we had a lien which had been recorded. A finance company which holds a conditional bill of sale claims it has first right to the car on account of a few unpaid payments which the owner has defaulted. The finance company did not record their conditional bill of sale and we claim for this reason they have forfeited their right to the car. Our lien is for parts and labor supplied the car after it had been purchased through the finance plan.—Lichtenberger's Garage, Mt. Vernon, Ind.

It appears that Indiana does not require a conditional sales contract to be recorded to make it valid as to third parties. The statute does give you a lien for repairs and supplies, but only when made with the knowledge and consent of the conditional seller or his assignee. Apparently Indiana law regards the conditional seller as still the owner of the car until all the conditions are fulfilled. The question you present is gone into very thoroughly in the *Atlas Securities Co. versus Grave* in the Appellate Court of Indiana, Division No. 2, Dec. 19, 1922. (No. 137 Northeastern Reporter, page 570.)

The conditional sales contract might empower the buyer to make repairs, good as a lien against the car, and thus give you right to hold. Again you might save your claim by making the defaulted pay-

ments and thus holding both liens—if the car be worth it.

### COPYING TIRE TREAD DESIGN

Q.—Can I lawfully make matrix for retread that will produce a duplicate of the tread on new tires of standard manufacturer?—Robert C. King, King's Retreading Machine, P. O. Box 509, Douglas, Ariz.

I am of the opinion that you could be enjoined from duplicating the tread of tires of other manufacturers. Whether the manufacturer has attempted to secure protection on his design or mold, or some other principle, he can always resort to the older rule of law against unfair competition where he has established his name, make, design, etc., in dealing with the public. The correct theory is that to permit another to follow up one's product in the manner in question is that the law would lend itself to an easy fraud upon the public. For instance the public might be misled in thinking they were getting the product of one of the standard manufacturers one copies.

Of course it might be that a manufacturer might not object to your work. But if your work decreased his business in your territory, you could expect a test of your right to use his design. But you would be safe in your own design.

# Answers to Readers' Questions

## Water Pump Sucking Air Causes Overheating

Q.—I have a 1920 K-45 six cylinder Buick touring car. For the past year this car has been giving considerable trouble in heating on prolonged high speed runs at 35 to 45 miles per hour, using as much as a gallon of water in 75 miles. This was not noticeable up to a year ago, when the car was given a thorough overhauling, cylinders reground, new pistons, etc. Since then everything has been checked carefully, the ignition, carburetor, etc., and I believe the heating condition may be due to a foul condition of the cylinder block and radiator. I have endeavored to clean this out with two or three pounds of salsoda running same for three or four days, then draining. Also have endeavored to clean same by adding a couple of pounds of Oakite and draining same after a day or so. This does not seem to help matters. The cylinders and water connections seem to be fouled up somewhat with rust spots or lime spots. Can you suggest any remedy that will cut this accumulation or renew the circulation in the radiator?—J. Brehl, Milwaukee, Wis.

You have evidently very carefully checked up many of the possible causes of overheating and we are therefore going to suggest that you look carefully to the condition of your water pump. After quite a few years of service it sometimes happens that the bearing or shaft and more frequently both, become so worn that it is impossible to keep the pump packing tight. When the pump packing is not absolutely tight it may be able to prevent the actual leakage of water, but it will not prevent air from sucking into the impeller when the car is operated at high speed. We would therefore suggest that you fill your car full of water and then operate your motor at what would correspond to a road speed of 45 miles an hour. If the water coming from the pump is full of air bubbles this in itself would be sufficient to consume as much as a gallon in 75 miles as you stated. We have known of a number of cases where the water pump had been drawing air with the result that the motor overheated and excessive water was consumed when operating at high speed. If this condition exists on your car we are sure the necessary repairs will be quite obvious to you.

## MOTOR DIES WHEN IDLING

Q.—I would like to know if someone could tell me what to do with a Chrysler 6-60. With the motor idling and as soon as vacuum tank opens, the motor dies. I have tried decreasing size of hole in suction line, but it seems to do no good. Have tested all joints but it does not seem to do any good either. Of course, I can make it idle faster and it won't stop, but at a good slow speed it will stop every time.—Nippersink Garage, Fox Lake, Ill.

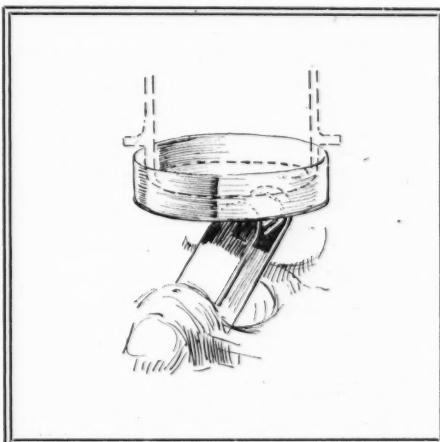
On the Chrysler light six a Stromberg carburetor is used. The local Chrysler service station states that they have not had any difficulty such as you describe,

but suggest that you try setting the Stromberg low speed or idling adjustment just a little richer to offset the additional air which is drawn in through the suction tube to the vacuum tank. On the Chrysler model 6-70 using a Ball & Ball carburetor some difficulty has been experienced with the motor stopping when idled at a very low speed due to the very large size of the suction line. Of course if there is an air leak at the vacuum tank, trouble such as you describe would develop, but in addition you would have difficulty in maintaining sufficient supply of gasoline for operating at high speed. Of course an old or rotten rubber tube for the operation of the windshield wiper would tend to aggravate this condition.

## SHOP KINKS IDEAS That have been Found Useful

### Saving Time and Bearings

I have found the following to be a good way to save a lot of cleaning after honing cylinders: Take a one pound coffee can and cut it down so that it is about 2 in. high. Then rivet a piece of felt around the top. To use this, push it up against the bottom of the cylinder and turn the crankshaft so that the connecting rod throw will hold it in place. The fine particles removed from the cylinder wall by the action of the hone will fall down into the coffee can and will be kept out of the crankcase and away from the bearings.—E. C. Wither, 419 N. Pine St., Colorado Springs, Colo.



Readers of MOTOR AGE are invited to submit ideas that they have found useful in doing some particular service job in the shop in a better or quicker way. For each one published \$2.00 will be paid. Whenever possible the idea should be accompanied by a sketch or diagram from which a drawing can be made.

## Over the Top at 40 Miles Per Hour

Q.—I would like to have a little information on a Studebaker Big Six, 5-passenger 1926 coupe. The owner claims it does not have sufficient power. He claims he can start up a hill at 40 miles an hour and go over the top at 40, but if he takes the same hill at 65 miles per hour before he gets to the top the car will have slowed down to 40 or 45 miles per hour. Please let me know what the trouble is and the way to check up on it. I would also like to have the valve timing for this car.—Steve Renskoski, P. O. Box 253, Clymer, Pa.

You have probably seen some hills that were so long that no matter how one might rush the grade the car would soon settle down to its climbing speed and remain at that speed until the top was reached. If the hill on which your customer is trying his car is one of that kind it may be perfectly natural for the car to slow down to 40 or 45 miles an hour. However, here are a few things which you can check to advantage to be sure that the car is in proper condition. The ignition on this car has full automatic advance and unless this is operating freely so that it has maximum advance at high speed, the car will not have proper pulling power. It would be well to look into this matter and be sure that the centrifugal weights move freely and that they are not catching anywhere. Of course the motor should have good compression which should be the same in all cylinders. To check the accuracy of the spark timing disconnect the ignition wire from the No. 1 spark plug and hold the terminal about  $\frac{1}{8}$  of an inch from the engine. With the ignition turned on, very slowly crank the engine until a spark jumps. When this occurs the engine should be on the compression stroke and the marks UP-DC-1-6 should be directly under the pointer in the left hand side of the flywheel housing.

Of course the compression in all cylinders should be uniform and the valves should be set to clearance of .005 of an inch when the engine is warm. It sometimes happens that an owner insists on a closer setting in order to have a more silent engine, but this will result in improper seating of the valves when the engine is hot with resultant loss in power. The valve timing can be very accurately checked by the marks on the flywheel.

## BUILDING FORD RACERS

Q.—I am advised that Motor Age can give some information on building Fords into racers, supply booklet on the subject, etc.—L. B. Carpenter, Bronson, Mich.

The names and addresses of those who are able to supply the necessary parts and plans for this kind of work will be given by separate letter.

# Clearing Up Electrical Troubles

Edited By A. H. Packer

## Ignition Timing on Franklin Cars

Q.—Please give the degrees for timing the ignition on Franklin 9B, 9A and the 1926 model. Do not refer to numbers on the flywheel. I find in many cases the flywheel has been changed for another and the location of the marking has been changed. I notice on Franklin engines that the advance on the ignition works best at 15 deg., allowing about 10 deg. for the automatic advance, which makes a total of 25 deg.—Ohio Electrician.

According to Franklin instruction book the Atwater-Kent open circuit type of ignition is set  $1\frac{1}{2}$  in. advance on flywheel, while the closed circuit type is set  $1\frac{1}{4}$  in. advance. If the flywheel dead center position has been lost or its accuracy is questionable you can check it by turning engine over until a certain piston is within  $\frac{1}{2}$  in. of its top position. Then make a mark on the flywheel. Continue to turn engine until piston goes to top dead center and again comes down so that it is  $\frac{1}{2}$  in. from its top position. Make another mark on the flywheel. A mark exactly between these two will be the dead center position on the flywheel.

On the Series 11, 1926, car the ignition is timed by setting the spark control level fully to the left or in the advance position. Next turn the engine over slowly by hand carefully watching the No. 6 intake valve and turning the engine until this valve just starts to open. Stop when the triangular slot in the fan rim is  $\frac{3}{4}$  in. ahead of the center line of the engine (generator side). If you turn past the mark do not back up to it but crank around twice again approaching the point more carefully. Loosen the spark control wire at the ignition instrument. Remove the high tension wire at the center of the distributor cover and hold the terminal about  $\frac{1}{8}$  in. from engine base. Turn the distributor clockwise slightly, then, counter-clockwise until the spark jumps from the high tension wire terminal. At this point tighten the spark control wire to the ball clevis. Check the spark setting by turning the engine by hand to see if a spark will jump when the triangular slot in the fan is  $\frac{3}{4}$  in. to the right (generator side) of center line mark inside the fan wheel housing.

## JUGGLING WITH THE CURRENT

Q.—Please inform me how I may step down 110 volts D. C. to 32 volts. I wish to charge a Fordson tractor and we do not have the required 32 volts and I just wondered how it would do to try and step down 110 volts D. C. What amount would two 60 watt lamps connected in series cut down on a line carrying 110 volts.—Willard Moody, St. Charles, Ill.

We do not believe the idea is practicable. The resistance of the Ford magneto coil winding is about  $\frac{1}{2}$  ohm. This means that on 32 volts it would draw

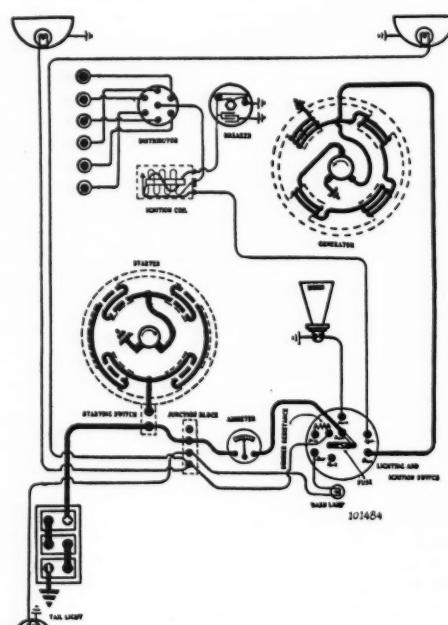
about 64 amp. or on 24 volts draw about 48 amp. and so on. We do not believe it would be safe to have more than approximately 50 or 60 amp. go through the winding and then only for an instant as the wire is flashed on the frame of the car. You would accordingly need a resistance which would be quite hard to get. It would be a resistance of about 1.6 ohms and capable of carrying 50 amp. This would be in the nature of a cast iron grid as used on a street car.

You would also have difficulty because the ordinary 110 volt circuit is used for 10 or 15 amp. and the wires and switches are not designed for heavy current. The resistance you mention of two 60 watt lamps would only allow a fraction of an ampere to flow whereas for magnetizing you need 40 or 50 amp. We believe the best thing you can do is to rent four 6 volt batteries of some local battery shop, take them to the repair shop where you are working on the tractor and then use the Motor Age method with variations adapted to the Fordson tractor as recently given by one of our readers.

## INTERNAL CIRCUITS WANTED

Q.—Supply wiring diagram of 1926 Essex including internal circuits of generator.—John W. Harris, Box 148, Mt. Pleasant, Ohio.

The diagram is shown in accordance with your request.



Wiring Diagram of 1926 Essex  
From Reed Service Manual

## Finding Condenser in an Unknown Coil

Q.—In an old coil like one of the Connecticut coils used some years ago on Overland cars, how can you tell what terminals are used for the condenser?—Chicago Mechanic.

The best way of locating a condenser is by using 110 volt test points with a lamp in series with one of the leads. This means that from the 110 volt socket, one wire comes directly to a test point while the other wire goes to the test lamp and from the other lamp terminal a wire goes to the test point. When the two test points are touched together the lamp will light. With a testing device of this kind you can locate the condenser by a little experimentation. Put the two contacts so that they touch two of the coil terminals. If the lamp lights up brightly you probably have the test points on the primary terminals. If the lamp does not light up, but when you break the circuit by removing one of the test points you see a very faint spark you probably have the secondary circuit.

When you get the test points on the condenser terminal you will not have the lamp light up and there will be no appreciable spark when you break the circuit. This is not conclusive however, and a further test is necessary. When you find the terminals that seem to give no results make a permanent connection between the terminals and the test points. Now while this connection is still made and the 110 volt current is turned on, take a pair of pliers or short piece of wire and short circuit the test points. If you really have located the condenser you should get a sharp snappy spark which makes a noise like the crack of a tiny whip. This indicates that you have located the condenser terminals.

## OVERCOMING RADIO INTERFERENCE

In regard to "Radio Interference" from a lighting plant as published on page 26 of the June 3rd, 1926, issue of Motor Age, I have the same trouble as the man asking the question, until I opened the output switch. This stopped nearly all the interference. This could not have been done if lights were being used, but I ran my lighting plant during the day, leaving the switch opened. Then at night current from the storage battery supplied the light and caused no interference.—Donald L. Leach, Cheneyville, Ill.

This experience is very interesting. It seems to indicate that the trouble is due to electrical pulsations, due possibly to sparking brushes, going out over the line which causes the wiring from generator to lights to act like an aerial. Magnetic induction from this wiring then affects the aerial of the radio set and causes the popping noise which is so unpleasant. It was on this theory that the inductance coils shown in the June 3rd issue were used.

# Answers to Readers' Questions

## Orphan Information You May Need

Q.—We have in our hands a 1918-19-4 cylinder, Saxon engine and would like to have you answer the following questions:

1. What is the horse power of this engine?

This engine is rated at 12 h. p.

2. Did this engine have set spark and if so how should the distributor be set?

This engine originally used an Atwater-Kent open circuit type interrupter, with automatic advance. Accordingly the spark was set although it advanced a certain amount due to the action of weights and springs. It should be set so that the trigger will just snap out of one of the notches on the distributor shaft when the piston is at the top dead center position, the engine being cranked slowly by hand. This is the theoretical correct position. In some cases the automatic advance does not give quite enough spark advance for greatest efficiency with engine at high speed. If you find this to be the case you can advance the spark slightly. This will have to be done with caution, however, and in cranking a quick jerk of the crank handle should be used to avoid having the engine kick back. The dead center setting would be safest if the car is not continuously used by someone perfectly familiar with it.

Q.—If possible give sectional view of clutch.

We have no section view of the clutch, but we are showing the various clutch parts. These are as follows:

753-R—Clutch Assembly.

754-R—Clutch Assembly.

755-R—Clutch Forward Drive Plate

### Assembly.

756-R—Clutch Pressure Plate.

757-R— $\frac{3}{8}$  in. x 3 in. x 24 in. S. A. E. Hex.

### Hd Sc.

758-R— $\frac{3}{8}$  in. x 24 in. S. A. E. Check nut.

759-R—Clutch Pressure Plate Drive Stud.

760-R—Clutch Pressure Plate Nut.

761-R— $\frac{1}{2}$  in. x  $\frac{3}{4}$  in. Cotter Pin.

762-R—Clutch Drive Plate—Center.

763-R—Clutch Driving Plate—Rear (with Lining).

765-R—Clutch Plate Lining.

766-R—Clutch Plate Lining Rivets.

767-R—Clutch Spring.

768-R—Clutch Anti-Rattle Spring.

769-R—Clutch to Universal Joint Shaft.

770-R—Clutch Throwout Thrust Bearing Assembly.

771-R— $\frac{1}{2}$  in. x 32 Button Hd. Brass Md. Sc. (Used on 770-R Bearing Shell).

772-R—Clutch Driving Plate Hub.

773-R—Clutch to U-Joint Shaft.

Q.—Was this motor made by the Continental Motor Co.?—Michigan City Motor Co., Michigan City, Ind.

Yes.

## DATA ON POPULAR CARS WANTED

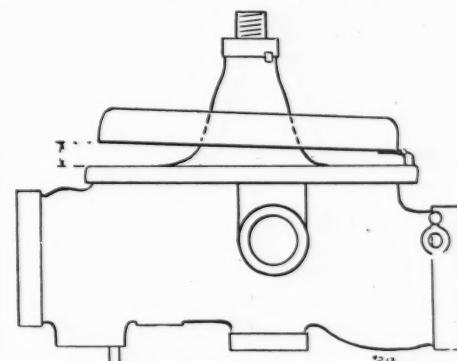
Q.—Please send us literature on speed and gear ratio on the most popular engines.—O. R. Kloehn Company, 414 W. College Ave., Appleton, Wis.

The gear ratio of cars in present manufacture is given in every issue of MOTOR AGE in the Mechanical Specification Tables. The tire size is also given. From this you can figure the engine speed for any car speed. To do this you multiply the gear ratio by the car speed in miles per hour and divide by the diameter of the rear wheel. Then multiply this by 336 and you will have the engine R. P. M.

## Checking Ford Carburetor Float Levels

Q.—How do you check up a Holley carburetor to determine whether the float level is correct or not?—New Jersey Reader.

We assume you refer to the Ford carburetors which have been in use about a year. To check the float level it is



Ford Carburetor inverted. Arrow heads show distance to measure

necessary to remove the carburetor from the car and dismantle it. Invert the portion of the carburetor body that carries the float and measure the distance from the float to the metal portion of the carburetor body as indicated in the illustration. This measurement is taken at the opposite side from the hinge. On the Holley carburetor this distance should be  $\frac{1}{2}$  in. and if you are checking a Kingston carburetor it should be  $\frac{1}{8}$  in.

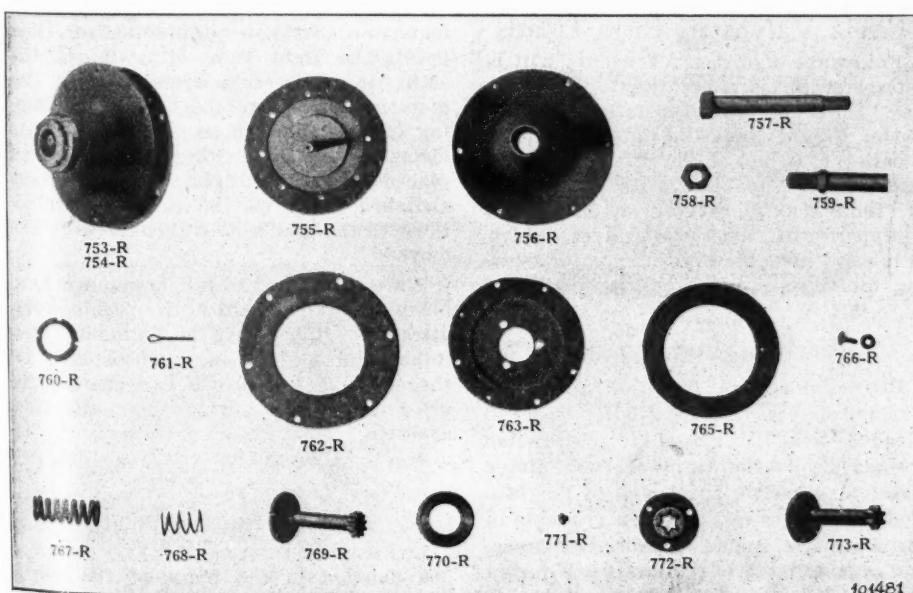
## REDUCING VIBRATION

Q.—I have a 1925 model K Chevrolet coach and I want to get away from the vibration. I am thinking of putting in a light set of pistons. What kind of pistons do you think is best to put in this car?—North West Reader.

It is contrary to the policy of MOTOR AGE to make any specific recommendation regarding equipment. It is perfectly true that the lighter the piston the less vibration there will tend to be, assuming of course, that all pistons are of exactly the same weight. It is conspicuous that present day practice tends very strongly toward the reduction of weight in reciprocating parts.

Q.—Am also thinking of putting in a vibration eliminator that is manufactured by a concern in the northwest.

While it is true that a rigid and very accurately balanced crankshaft is a great advantage, still it is quite a problem to install counterbalances so that they are both in static and dynamic balance. This work is really a factory problem and requires the use of the most delicate balancing apparatus.



Clutch parts in 1918 4-cylinder Saxon

# How a Banker Analyzes Used Car Values

DEPRECIATION of automobiles in operation over a one to five-year period, and the effect of such depreciation on the cars, value in the used car marts is analyzed in detail by Colonel Leonard P. Ayres, vice-president of the Cleveland Trust Company, in his monthly bulletin for August.

"Depreciation," says the bulletin, "is by far the most important item in the cost per mile of running a new car, but it becomes only a minor item after the car is three to four years old."

"Repairs," continues the bulletin, "are a minor item when the automobile is new, but become a major one after it is several years old."

The bulletin then observes: "The market values of second-hand cars are now becoming well standardized. They are closely estimated from month to month from the records of actual sales

of large numbers of cars of various makes, and trade publications of established standing report to dealers at frequent intervals the prevailing market values."

A diagram, which accompanies the bulletin, is based on data from one of the recent trade reports on prices of used cars. The quoted prices of 13 makes were used. The figures show that if the price of each car when new is taken as 100 per cent, the one showing the least depreciation after one year of use had then a market value of 62 per cent of its original cost.

"The average car has a value at the end of the first year of only 49 per cent of the first cost, and the car showing the greatest depreciation among these 13 makes is worth after one year's use only 32 per cent of its cost when new.

"The corresponding figures for the second, third, fourth and fifth years are shown in the diagram. They show that the typical passenger automobile loses about one-half of its selling value in its first year of use, about three-fourths in the first three years. The depreciation of the most durable cars is so much slower than that of the least durable, that after several years of use they are worth from two to four times as much as their more fragile competitors.

"The market value of a car that is five years old is discouragingly small. The best record among these 13 makes is 12 per cent, and the poorest one only three per cent of the first cost. The average is seven per cent. There does not seem to be any close relationship between the first cost and relative rate of depreciation."

## Offers Plan for Making Instalment Selling Safer

To make instalment selling safer, H. E. Gilbert of the Ohio Buick Co. of Cleveland, Ohio, in an issue of the National Association of Credit Men's Credit Monthly suggests the creation of reserve funds or insurance to meet any unusual hazard.

Mr. Gilbert says that in instalment selling first, the recognized rules of handling credits must be observed; second, that reserves or insurance should be employed to safeguard risks; and third, that the value of the article at any time during an instalment transaction should never be less than the payments that are due for, as Mr. Gilbert says, "no one of us enjoys paying for a 'dead horse.'"

Mr. Gilbert says that instalment selling experience to date has been infinitely better than the average of other credits.

"A proper time payment plan," Mr. Gilbert says in part, "used in connection with the sale of merchandise to which it properly applies, based upon sound credits, has a proper place in the field of commercial activities today. There are certain fundamental laws which must be applied to make it successful, the transgression of which will lead to disaster."

In discussing the need of reserves to meet conversion or the selling of merchandise by the buyer and the failure to make the remaining payments, Mr. Gilbert says:

"Conversion is one of the additional hazards which one of the industries which is a large user of time payment sales has to contend with; but conversion can be practically eliminated by a selection of risk or by getting additional signers on the transaction, not primarily for the purpose of making a third party pay for merchandise with which the



Flood Light Makes Sign Give 24-Hour Service

principal absconds, but for the very practical reason of having a third party interested in helping find the principal and obtain the return of the merchandise or the payment for it."

## Boyle Valves in Rajo Heads

Followers of dirt track events will be interested to learn that Boyle valves are now being regularly installed in Rajo Model C-35 cylinder heads. It will be recalled that one of the dirt track graduates, Cliff Woodbury made third place at Indianapolis, driving a Miller car equipped with these flat valves, which, it is said, give 40 per cent greater opening for the same valve lift.

## "Chief" Gets Fifth Dodge

BOISE, Idaho, Aug. 24.—Francis McFarland of Fort Lapwai, Idaho, is a full blooded Nez Perce and to his Indian friends he is known as Chief Painted Eyes, is a recent purchaser of his fifth Dodge Brothers car. He is a graduate of the Chilaco Indian school, Oklahoma, and took delivery of his latest car during the Indian congress held at Spokane, Wash., recently.

## Old Headlight Gives Sign a Real Broadway Touch

Successful welding shops progress because of the intelligence and energy of the manager. It is especially notable that in the matter of advertising and solicitation of business many people in the welding field show considerable energy and much ingenuity. Among these is the organization whose shop is shown in the photograph on this page.

The particular point to notice in this illustration is the sign on top of the building. This sign is visible for several blocks in two directions, and can be seen from the main crossing of the town. The position of the sign, its color, and the size of the lettering, all make it prominent in the daytime. After dark, however, it might as well have been absent.

One of the partners, noting this, designed the flood light arrangement shown. A discarded headlight was fixed to a sign post which stands about 20 feet from the shop building. From this point, the light thoroughly floods the sign. It was merely a matter of a few moments to change the socket and wiring to accommodate an ordinary 40-watt electric lamp, and when the lens was placed on the headlight and the current switched on, even the previous limitations to the sign's effectiveness were removed.

While it is hard to tell how much new business has resulted from this very attractive sign, there is no doubt that it has had a share in the prosperity of the shop, as few people can pass, night or day, without having their attention arrested.

(From Oxy-Acetylene Tips.)

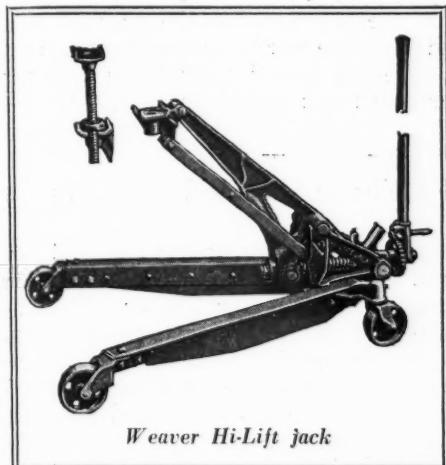
## Fire at Painting Plant

LORRAINE, O., Aug. 22.—Fire did \$25,000 damage to the plant of the Merit Auto Painting Company. Twelve automobiles were destroyed.

# AMONG THE NEW SHOP TOOLS

## Weaver Hi-Lift Jack

The saddle of the Hi-Lift jack produced by the Weaver Mfg. Co., Springfield, Ill., can be lowered to 6 in. and raised to 33½ in. and the extension screw saddle gives an additional 7 in.



Weaver Hi-Lift jack

affording a total elevation of 40½ in. The lifting arm of the jack is operated by means of a screw and nut and is controlled by a long lever handle, or for quick operation to reach the load a rotating handle is provided. A load of 8000 lbs. can be raised, making this model suitable for work on heavy passenger cars, trucks, etc. Shipping weight approximately 240 lbs.

## Hi-Lo Horses

The Hi-Lo Horse is a rugged piece of equipment made by the Garage Utilities, Inc., Hagensack, N. J., which replaces the wooden horse and eliminates the necessity of "blocking" when making repairs which require rigid support for unusually heavy vehicle units. It is said to provide an extremely large factor of safety in supporting the heaviest cars and trucks while it is constructed for long service. The base or pedestal is composed of heavy steel plates very strongly put together. The pawl is drop-forged steel with heavy shoulders lapping the top of the pedestal, carrying

the load centrally upon it without strain on the pawl bolt. This horse is equipped with a detachable "head base" upon which is placed a jack, the same head base fitting all models of Hi-Lo horses and being adaptable to any jack. It is rigidly fastened and quickly attached and detached.

Two of the Hi-Lo Horses are illustrated. Model "A" is used as either an axle stand or frame support for all cars and for an axle stand for the heaviest trucks. Model "AAR" is especially for the paint shop and in the sales room where floor space is limited. There also is Model "AA," serving as an axle stand for the lowest cars with balloon tires.

## Two Brake Service Helps

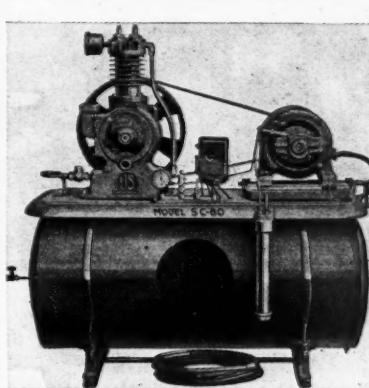
Muther Manufacturing Company, 44 Binford Street, Boston, has two new devices for use in brake testing and brake service. The testing instrument is known as the "Stopmeter." The other item is the Cowdrey Pedal Depressor.

The Stopmeter is used to calculate deceleration, etc., in road tests of brakes. Net trade price \$5.

The Cowdrey Pedal Depressor is to save the time of having one extra man in the driver's seat during brake, clutch and stop-light adjustment. This tool will hold the pedal with consistent pressure. The double latch permits close adjustments and the graduated bar is often found convenient. Price \$5.

## U. S. "Big Brother"

The "U. S. Big Brother," otherwise designated as Model SC-60, is a new air compressor machine being produced by the U. S. Air Compressor Company, 5314 Harvard avenue, Cleveland, O. This ma-



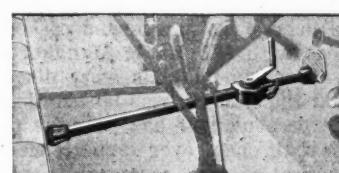
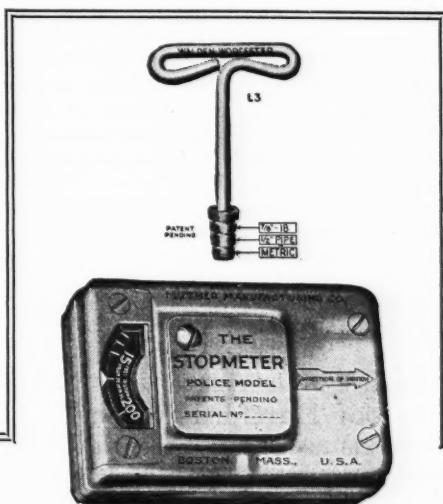
U. S. "Big Brother"

chine is built along lines similar to the same producer's Standard De Luxe compressor unit.

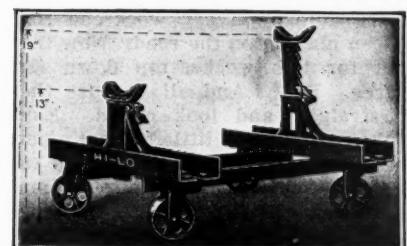
Model SC-60 is designed for extra heavy service which has developed through increased use of balloon tires, for spraying automobile springs with penetrating oil, cleaning, operating air lift grease racks and for other purposes.

## Cylinder Head Lifting Tool

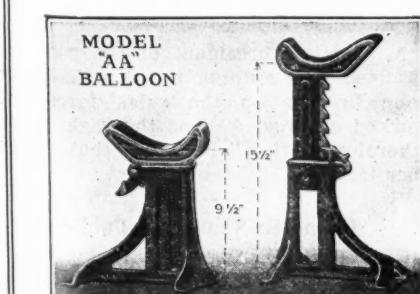
Walden-Worcester, Inc., Worcester, Mass., has a new cylinder head lifting tool which it catalogs as L3 and prices at \$1. This is a tool which enables the user to lift the cylinder head from the block without damage to gaskets or surrounding parts. It will remove cylinder heads on the following cars: Auburn, Nash Light Six, Cadillac, Chandler, Cleveland, Chrysler, Dodge Brothers, Diana, Essex, Flint, Ford, Gardner, Gray, Hertz, Hudson, Hupmobile, Jewett, Jordan, Lincoln, Maxwell, Moon, Oakland, Oldsmobile, Overland, Packard, Paige, Pierce-Arrow, Pontiac, Rickenbacker, Reo, Star, Studebaker and Peerless 67, 72 and 80.



Top—Cylinder head tool. Center—the Stopmeter. Bottom—Cowdrey pedal depressor



Hi-Lo Horse Model "AAR"



Hi-Lo Horse Model "AA"

## A Dealer Plant Designed for Sales and Service

(Continued from page 13)



*Under the balcony is the accessory store where tires constitute an important part of the stock in trade*

"doll up" the corner, although our photo was made before the latter had much of a start.

Decorations inside are in two-tone tan with green trim and are very pleasing—Mr. Perske admits this.

Mr. Perske's office is located back of the six windows over the canopy of the filling station and commands a view of the shop, both showrooms and the filling station through the skylight in the shelter.

Hupmobile is handled but service is given all makes of cars as well. The garage is always open and a system of flood lighting makes the building a prominent feature of the landscape at night and insures a full attendance from belated tourists.

### Saving Bank Capitalizes The Joys of Motoring

An interesting advertisement appeared in a Kansas City paper recently, which, at first glance seemed to be the clever copy of the advertising manager of some automobile company. However, on looking for the name of the automobile company at the bottom, it was discovered that the advertisement was inserted not by a motor car dealer, but by the savings department of the First National Bank of Kansas City, one of the most conservative banks in the city. Headed by a picture of a young couple touring in a small open car, with bags in a luggage carrier on the running board, the advertisement was entitled, "Cares Left Behind." The copy read:

"Yes sir, that young couple know what they are doing. Every week-end they have been playing on the road. Now they are off for two weeks, top down and care free. Boy! And all because they think straight, and look ahead. Each week they put away a little bit, not much, but every week! That is where the car came from—that is where this trip comes from—they are living while the living's good. Five dollars deposited each week amounts to over \$250 in twelve fast-coming months!"

The theory of this advertisement as explained by the manager of the savings

department of the bank, S. C. Thorning, is to urge savings department prospects to save for a car and indirectly for next summer's vacation. According to Mr. Thorning, the old admonitions of "save for a rainy day," or "save for old age," are no longer used in bank advertising. They are considered too trite. The accepted policy now is to urge saving for some definite objective or enjoyment.

Thus does an advertisement, which has for its direct object the promotion of the savings bank idea, react to the advantage of the automobile industry.

### Cash Bonus Accelerates Sales of Hartford Agency

The old saying that "money talks" has been amply borne out in the case of the A. C. Hine Co. of Hartford, distributor of Oakland and Pontiac in Connecticut. Two months ago A. C. Hine, president, talked over ways and means of boosting business with Wholesale Manager C. A. Lane. Various methods were discussed, not that the concern was lacking in trade for the present year has thus far proved the best it has ever experienced but rather that it was essential to pile up the volume while it could be piled and thus guard against a natural falling off later in the season.

The result of the conferences was a decision to pay salesmen a cash bonus

## Crack Sprinter Races Whippet

A publicity stunt which attracted a great deal of attention to the Whippet was staged in San Francisco by Calvin C. Eib, president of the Overland-Knight Sales Company, of this city. Mr. Eib put a Whippet on the mark and sent it away in a 100-yard dash against Allen Newhoff, star sprinter of the Olympic Club here. Both took a standing start. The foot-racer did the hundred in 10 3/5 seconds; the car in 10 1/5. Charles F. Hunter, track coach of the Olympics, did the timing.

Eib now claims that the Whippet has the greatest get-away of any car and that the performance means much in car use in traffic. He has issued a challenge to other sprinters to try their speed and spiked shoes against the Whippet.

### Sales Manual Helps to Handle Used Cars

(Continued from page 16)

allowance to him, the house is sure to lose on the used car.

"It is well to bear in mind the cost of selling cars, used or new. Often salesmen feel that for \$25 or \$50 additional allowance on the used car he can close the deal and deliver the new car. He argues that it is better to sacrifice \$25 or \$50 than to lose the entire profit on a \$1,000 new car. He is looking at the gross profit and does not realize what the net profit really is.

"It has been established through investigation by the National Automobile Dealers' Association that the average net profit to the dealer is only about 3 per cent of his turnover. That does not take into consideration those who have lost their businesses and have passed out of the picture. Three per cent of \$1000 is \$30. If you allow a man \$25 more for a used car than it is worth you are giving away your employer's chance to make a profit from a \$1000 sale; allow \$50 extra and it costs the house \$20 to make the sale. Such volume would soon put us out of business."

for the highest sales records and this was done in June and July by way of a try-out. Every salesman was on his toes and all hustled so that the volume was materially increased, so much so in fact that the chief worry of the company was to get cars in sufficient quantity and not keep customers waiting.

W. R. Milliott walked off with the capital prize in the June contest with George Watts a close second. Milliott tried hard to draw down the first prize in July but the bulk of his sales were on Oaklands which did not give him as many points as a corresponding number of Pontiacs would have done. Consequently A. W. Hazard who worked a fine string of prospects on Pontiac and closed them at the rate of one a day won the honors. A. E. Tibbo finished second.

A. C. Hine, president of the company asserted that nothing the firm had ever done to pep up the sales force had worked quite so well as the cash bonus, "thereby proving," he said, "that money does talk."

### Chandler Show for Public

CLEVELAND, Aug. 23.—Having leased Euclid Gardens in which to display the new Chandler models to the 1,800 dealers who recently attended a convention here, the factory is continuing the display for the benefit of prospective buyers.

# EDITORIAL

## Advertise Your Service Equipment

**M**ANY shops spend good money for costly tools and then forget them. They may not exactly forget that they have these tools, but too often they don't take any steps to let any one else know about these valuable additions to their service facilities. This neglect accounts for most of the dissatisfied owners of good maintenance equipment.

What can be accomplished by letting the world know you have the best equipment procurable is shown by the experience of Brownell Auto Co., related in last week's issue of *MOTOR AGE*. This company, a leading car dealer in Birmingham, Ala., increased its service business one-third in a little more than a month by a well designed newspaper advertising campaign in which was shown illustrations of high-grade maintenance equipment being used in the Brownell shop for specific jobs that were mentioned in the advertising.

The American public is naturally interested in things mechanical. Its almost universal automobile ownership makes it so. That being true it is very best to interest the average car owner in the latest mechanical devices for servicing his car.

There is real interest in an electric machine that grinds or refaces valves; in the powerful and accurate devices that make cylinder bores smooth and true; in the testing equipment that almost uncannily, but invariably, puts its finger on the electrical trouble; in the high pressure lubricating systems that put grease in the tight places that resist all manual efforts; in the laundering equipment that makes a car shine like new in a few minutes; in the marvelous new painting equipment that takes the long wait out of the refinishing business.

There are dozens of other modern ingenious devices that are used in the up-to-date service shops and which would have great interest for the car owner if he only knew about them.

In fact if the average car owner knew of the many labor saving and time saving tools that are used in the best shops he probably would never think of doing himself many of the little jobs on his car that he now wastes time and energy upon.

## Encouraging the Dealer

**T**HERE appears to be a growing recognition on the part of the automobile manufacturers that it is a good thing for their dealers to sell automotive accessories and supplies in such volume and variety as will meet the requirements of car owners. This recognition no doubt is based on two fundamental facts that *MOTOR AGE* has long recognized and called to the attention of the trade:

First: The accessory and supply business properly belongs in the general automotive establishment where the customer is able not only to buy the car he wants but also to obtain conveniently all the accessories and supplies and the service requisite to satisfactory operation of that

car. This is not to say that there should not be specialized accessory and supply and service establishments. In every line of trade there is a field for such establishments.

Second: The need for service and supplies a swell as accessories brings the car owner into contact with the merchandiser much more frequently than does the purchase of a new car. Constant contact with the car owner is best maintained by providing an establishment in which all his wants may be satisfied. Thus the car dealer by having a good accessory and supply department and a good maintenance service department makes steady customers out of those who buy cars from him and maintains his standing as a car merchant with them. Such a dealer is in the best position to sell his old customers their next new cars.

These are simply two good merchandising principles applied to the automobile business. The service of supply and maintenance is a vast part of the automotive industry and there is no reason why the car dealer should not share in its profits.

## Good Roads Are Pushing On

**G**RADUALLY the ribbons of concrete are stretching out toward the ultimate goal of connecting the Atlantic and the Pacific. The Mississippi River has been crossed and now Missouri and Iowa are carrying the hard surfaced highways of the East toward union with those of the far West. Crossing the Mississippi river at St. Louis one now has the choice of two paved roads to Kansas City, both nearing the completion as continuous concrete strips. Or if one wished to penetrate toward the land of the setting sun by way of Texas and the sandy stretches of New Mexico and Arizona one may travel southwest from St. Louis through the Ozarks on a modern highway that is rapidly being concreted. The touring facilities of the country are being rapidly expanded, meaning to the trade more miles of motor travel and more consumption of supplies and maintenance services.

## The Balloons Have It

**S**URELY the balloon tire is taking the place of predominance in the tire industry. This modern aid to comfortable motoring has already asserted itself as the popular favorite in the matter of new car equipment, but of course it was hardly to be expected that the millions of cars running on high pressure cords would be re-equipped immediately with a tire of different type. As the old cars go out of service, however, the number of high pressure cords required for replacements is rapidly being reduced until now the production of balloon casings actually exceeds that of high pressure casings. It must follow soon, therefore, that in the dealers' stocks of tires the balloon casings and tubes will predominate.

# TEN LEADING MAKERS SHOW

## First Half of Last Year Far Distanced by Group

### Combined Profits of Producers Covered in Survey 40 Per Cent Ahead

NEW YORK, N. Y., Aug. 23.—A survey of the activities of ten leading car manufacturers shows that sales during the first six months of 1926 amounted to 1,356,360 vehicles against 972,908 in the corresponding 1925 period, a gain of 388,452 or about 30 per cent.

The combined profits of all ten companies were \$153,943,531 against \$110,521,476 in 1925, or a gain of \$43,422,055, equivalent to 40 per cent.

Analysis of the sales of the individual companies reveals that increased profits did not accompany increased sales in every instance. In several cases, a lower margin of profit kept earnings below those of last year, despite larger sales totals.

Other companies which reported a decline in sales showed a higher margin of profit which kept total earnings close to those of last year.

#### Flint Prices Reduced

ELIZABETH, N. J., Aug. 23.—Colin Campbell, vice-president of Durant Motors, Inc., who now has charge of Flint operations in addition to direction of the Star division announces the following new scale of Flint prices effective Aug. 20:

#### "Z-18"

	Old Price	New Price
Flint Junior Coach	\$1085	\$ 960
De Luxe Coach	1185	1075

#### Model "60"

Touring	1285	1260
4 p. Roadster	1395	1360
Brougham	1525	1450
Sedan	1525	1495
4 p. Coupe Roadster	1495	1495
4 p. Sport Roadster	1525	1495

#### Model 80

Touring	1595	1450
4 p. Sport Touring	1945	1645
4 p. Roadster	1945	1645
4 p. Coupe	2045	1850
Sedan	2195	1925
7 p. Sedan	2395	2125

#### 50 Cents on Beggs Claims

KANSAS CITY, Mo., Aug. 23.—According to a recent statement by Brown Harris, attorney for J. W. Beggs, receiver for the defunct Beggs Motor Company here, stockholders of the company will be enabled to realize about 50 cents on

the dollar invested, when sale of the assets has been consummated.

A contract for sale of the property of the Beggs company was recently approved by the court. The contract names a consideration of \$30,000 and stipulates the Hurst Scrap Iron and Metal Company of this city as purchasers.

The Beggs Motor Company began manufacture of automobiles in this city in 1917. During the war and through a few years following the company is said to have enjoyed a flourishing business but the general post-war deflation projected the concern into bankruptcy and production was discontinued.

#### Profits by Moto Meter Co.

NEW YORK, Aug. 23.—Net income of Moto Meter Co. and subsidiaries for the quarter ended June 30, 1926, was \$572,636 after depreciation and federal taxes. Under the participating provisions of the shares this is equivalent to \$1.47 a share earned on 200,000 no par shares of Class A stock and \$1.39 a share on 200,000 no par shares of Class B stock. It compares with \$522,215 or \$1.36 a share on Class A and \$1.22 a share on Class B in the preceding quarter and with \$579,137 or \$1.48 a share on Class A and \$1.41 a share on Class B, based on present capitalization in the second quarter of 1925. For the first six months of this year net income totaled \$1,094,852, equal to \$2.85 a share on Class A and \$2.61 a share on Class B under participating provisions of the shares and compares with net income of \$99,599 or \$2.68 a share on Class A and \$2.27 a share on Class B in first half of 1925.

#### Big Auburn Exports

AUBURN, Ind., Aug. 23.—Export shipments by Auburn Automobile Co. for July were equal to total export shipments in the first seven months of 1925. The company now has 54 export distributors in 42 countries.

Auburn during the first six months shattered all production records in the history of the firm, according to President E. L. Cord. From all indications the last six months will be even greater, he says.

#### Mason Tire's Statement

KENT, O., Aug. 23.—The Mason Tire & Rubber Company's semi-annual report shows sales for the period of \$6,254,000. After a write-off of \$217,443 for inventory there was available for interest and reserve \$315,390 and after interest charges were deducted there remained \$200,717 of which \$175,588 was set aside as reserve leaving about \$25,000 surplus. The balance sheet as of June 30 shows \$3,606,088 current assets and \$1,938,957 current liabilities. Property account is carried as \$5,106,726 against which depreciation reserves have been set up of \$1,001,141.

#### Moskovics Back in U. S.

NEW YORK, Aug. 21.—On his arrival here from a long stay in Europe F. E. Moskovics, president of the Stutz Motor Car Co. of America, Inc., breathed optimism over the prospects of a larger Stutz export market and made known that he intends to assist two European automotive concerns in becoming established in this country.

He denied that he had effected a reciprocal sales agreement with the French firm of Bugatti.

"I have, however," he said, "appointed Ettore Bugatti, whom I consider to be the greatest engineer in Europe, to represent the Stutz company in Paris. I also named agents in a number of other European countries.

Mr. Moskovics also declared he will assist M. Weymann, of Paris and London, maker of automobile bodies, to become established in the United States. The Weymann factory will be located in Indianapolis, occupying part of the plant of the old National Automobile Co. Work of renovating and equipping the plant will start by Sept. 15. Weymann will make bodies for the general trade.

The Stutz president will also assist Bugatti to become established in the U. S.

#### Chrysler Net Profits

NEW YORK, Aug. 21.—Net profit of Chrysler Corp. and subsidiaries for six months ended June 30, 1926, was \$7,846,744 after charges and federal taxes, equivalent after dividends on \$8 preferred stock to \$2.58 a share earned on 2,705,098 no par shares of common stock.

Consolidated statement of Chrysler Corp. and subsidiaries as of June 30, 1926, shows total assets of \$89,037,505, comparing with \$71,423,179 as of June 25, 1925, and profit and loss surplus \$16,399,210 against \$6,070,667.

Current assets on June 30, 1926, totaled \$37,824,207 and current liabilities \$11,565,722.

#### Willys-Overland Sales Up

TOLEDO, Aug. 21.—Willys Overland Co. reports an increase of 39 per cent in June sales of the Overland six line over the same month last year. Gains of better than 40 per cent for the year to date on the Knight line are also reported. Production on the Whippet is being increased as rapidly as possible to meet retail orders which at the present time are reported doubling factory output.

#### Engel to Have New Plant

MILWAUKEE, Aug. 23.—The Engel Tool & Forge Co., 388 Davidson Street, Milwaukee, is erecting the first unit of a new plant on a new site at 287 Orchard Street. Charles Engel is proprietor and active manager of the business, which is largely in automotive parts and supplies.

# 30 PER CENT GAIN IN SALES

## Reo Having Banner Year

NEW YORK, Aug. 23.—Commenting on the July total of 13,660 car sales, an increase of 8 per cent over the corresponding month last year, George Stowe, vice president of the Reo Motor Car Co. of New York, declared that the increase while "not sensational, is gratifying."

"July is usually an off month," said Mr. Stowe, "and this evidence of growth is an indication that the sales peaks are flattening out and that buying is being spread more generally over all the months of the year."

"The figures gathered by our association are taken from dealers' reports. In submitting them many of the dealers took occasion to comment on the steady demand that they have enjoyed all through the year. There seems little question that 1926 will prove a banner year in sales and it is more than likely to eclipse all records. Apparently the prosperity of the industry is not confined to the metropolitan territory, as reports from other sections show that there is a steady demand for new cars and that a majority of dealers are running ahead of previous figures."

## Klinger Steps Up

DETROIT, Aug. 23.—H. J. Klinger has been appointed assistant general sales manager of the Chevrolet Motor Co., according to R. H. Grant, vice-president and general sales manager.

Mr. Klinger will devote his efforts on the Great Lakes, Middle West and Pacific Coast regions and C. E. Dawson, who has acted as assistant general sales manager for the country at large will concentrate on the Flint, Atlantic Coast and Southeast regions.

Before coming to Detroit to assist in supervision of general sales activities, Mr. Klinger was zone sales manager at St. Louis, Mo., from 1924 to 1925.

## Makers Change Name

MILWAUKEE, Aug. 23.—To make its corporate title more expressive with respect to the trade mark of its product, the Automotive Fabric Equipment Co., 235 East Water Street, Milwaukee, has changed its name to Kleen-Kar Fabric Equipment Co. The concern manufactures seat covers on a standardized basis and has national distribution. John H. Gayhart is president and general manager, and C. A. Price is secretary.

## Rim Output Under 1925

CLEVELAND, Aug. 23.—Rim production still remains below last year's totals, the Tire & Rim Association of America, Inc., reports. During July, 2,123,368 rims were inspected, whereas in July of 1925 the total was slightly higher at 2,262,671. The July, 1926, total, however, is a trifle above the June figure of 2,110,035, but under the May total of 2,178,947. Total rims inspected during the first seven months of this

year were 15,318,945 as against 15,796,344 in the same period of 1925.

July production totals in principal sizes were as follows:

Clincher	July, 1926	July, 1925
30x3½	95,810	390,682
Balloon		
28x3½	1,009,388	819,685
28x4	195,733	318,462
29x4	289,227	185,495
30x4½	131,282	176,862
30x5	27,051	34,716
31x5	23,765	28,794
High Press.		
30x3½	14,814	46,078
32x4	16,369	22,909
32x4½	33,224	31,207
Truck "20"		
30x5	115,304	79,736
Truck "24"		
34x5	11,051	5,305
36x6	5,614	4,170

## Eisemann in New Branch

DETROIT, Aug. 23.—The new Eisemann Direct Factory Branch building in Detroit is now occupied. Selection of the site at 6511 Lincoln Avenue was made after a careful survey of conditions in Detroit. It is in the heart of the growing automotive area surrounding the General Motors Building.

Combining attractive appearance and utility, the new building offers every provision for the customer's convenience.

## Active Fall Promised

NEW YORK, Aug. 23.—Continued progress toward resumption of large scale automobile manufacturing soon after Sept. 1 is noted in the activities at the factory centers. By that time a considerable volume of orders will have been built up against manufacturing schedules and a high rate of output is practically assured for the early fall months. Large scale buying from middle western districts is becoming evident and there is noted a resumption of interest from eastern industrial centers which characterized the early part of the year. The prospect of large demand from foreign markets also is giving manufacturers much cheer. Export sales have shown a steadily mounting tendency throughout the year and in many countries the best season for automobile sales is still ahead.

Conditions are generally better due in large part to active cooperation from factories both with regard to control of shipments and assistance in developing retail business along sound lines.

## Give Anibal New Post

PONTIAC, Aug. 23.—B. H. Anibal, chief engineer of the Oakland Motor Car Co., has been appointed vice-president in charge of engineering. He became affiliated with Oakland in March, 1925, and has been associated with General Motors for 12 years. In 1909 he joined the Olds Motor Works and has since been associated with Peerless and Cadillac.

## Employment Surplus in Detroit Says Statement

## Workers' Situation Found Satisfactory Generally by Labor Department

WASHINGTON, Aug. 21.—An employment surplus prevails in the Detroit industrial district according to the July statement issued here by the U. S. Department of Labor which sets forth that employment throughout the country generally is on a fairly satisfactory basis. There is a slight surplus of workers in automobile body plants in Grand Rapids but this is reported only temporary. Automobile spring and bumper plants in Grand Rapids are operating overtime.

With several departments in the large automobile plants working overtime there is a shortage of workers in Flint. A large motor car corporation has taken over an automobile company and is to construct a sheet metal plant. A surplus of workers in the automobile industry exists in Lansing.

New York's industrial situation is reported good generally but there has been a falling off in production and employment in the automobile industry in the Buffalo district. There is still a surplus of workers in Ohio while a surplus also is reported in some automobile accessory plants in Racine, Wisconsin.

## Manufacture Commenced

BLOOMINGTON, Ill., Aug. 23.—The Tyre Auto Radiator Company which moved from Chicago to Bloomington, has commenced the manufacture of its products. The opening week, was signalized by receipt of one order for 5,000 radiators.

## New Reo Sedan Bus

LANSING, Aug. 23.—The Reo Motor Car Co. has just added a new sedan bus to its line of bus models. The bus is offered in two different seating arrangements and each is priced at \$5,100.

## White Adding Plant Unit

CLEVELAND, Aug. 23.—The White Company has begun the erection of another unit at its factory. The building will be one-story, of brick and concrete and cost \$25,000.

## Enlarge Output

CLEVELAND, Aug. 21.—The Monobloc Company, battery box manufacturers, has increased the production of its Canal Dover plant from 10,000 to 15,000 boxes a day.

## \$2,000,000 Service Plant For Packard in New York

Plans Call for One of Largest Institutions of Its Kind in Eastern U. S.

NEW YORK, Aug. 23.—Contracts have been signed by the Packard Motor Car Co. of New York for purchase of the entire block front on the west side of Eleventh Avenue between 54th and 55th Streets as a site for a seven-story service station which will cost about \$2,000,000.

The property is said to have been bought for all cash and to have cost close to \$600,000.

Albert Kahn, a Detroit architect, is preparing plans. According to present plans the plant will be one of the largest of its kind in the east. The plot measures 200 by 225 feet and is part of the 800 foot plot recently purchased by the W. R. Hearst interests.

### Get Moon-Diana Contract

ST. LOUIS, Mo., Aug. 21.—Moon Motor Car Co. announces the appointment of Waugh Brothers, St. Louis, as distributors for Moon and Diana cars in the St. Louis territory.

### Couzens Now in Field Of Electric Refrigeration



Senator James Couzens

DETROIT, Aug. 21.—Senator James Couzens of Michigan, who was one of the early stockholders in the Ford Motor Co., and who was connected with that company for many years, is actively engaging in the electric refrigeration business as head of the Couzens Ice Machine Co., of Detroit. Large production is planned.

## NEW Automotive Literature

GASOLINE FACTS, by H. G. Mendelson, member of the Petroleum Division of the American Chemical Society. This book is well described by the line printed on the cover reading: "The liquid power explained in a readable story." Chapters are devoted to the industry in general, the automobile age, the source of supply, the refining and manufacture, gasoline and oil tests, distribution and economics, the automobile owner, relations to government. There are 23 full page illustrations. There are a number of statistical tables. In the chapter on gasoline and oil tests the method of testing gasoline for volatility by distillation test is fully explained. A number of other tests also are described. This book is published by the National Tank Auditing Service, Inc., Bradford, Pa. The price is \$2 a copy.

IVO DISTILLED RADIATOR GLYCERINE. A booklet of facts about the use of distilled radiator glycerine as an anti-freeze solution, together with complete instruction on the servicing of motor cars with glycerine to prevent freezing. Sent free on application by the Proctor & Gamble Co., Cincinnati, Ohio.

RUBBER ASSOCIATION OF AMERICA Twenty-sixth Book. This 1926 year book gives the membership of the Rubber Association of America as of June 1, the personnel of organization, the charter and constitution and the officers and directors of the association since its organization in 1900.

FEDERAL-MOGUL CORPORATION, Detroit, has just released a supplementary catalog edition, listing many engines of 1925-26, and even some of 1927, adding approximately 150 new bearing numbers in standard and undersizes to their line.

TRANSPORT AVIATION. This new book by Archibald Black is the first of its kind and covers the entire field of commercial aviation in a manner that is of interest to the expert and layman alike. Starting with a brief history of accomplishments both in Europe and in the United States it leads up to the organization of air lines, and also covers their maintenance in detail. Cost systems are also covered so that one can estimate the capital necessary to operate any number of planes over any given route. This should be of particular interest to the business man and investor. The Simmons-Boardman Publishing Co. are the publishers.

AUTOMOBILE WELDING WITH THE OXY-ACETYLENE FLAME. Every problem of the automobile welder is clearly and completely covered in this book by M. Keith Dunham. The care and use of the welding equipment is first dealt with. Then the welding of different kinds of metals and the handling of the unusual kind of work is covered. Profuse illustrations make the subject matter readily remembered. The calculation of the cost of welding jobs is of particular value in setting a fair charge on the work done. This book is published by The Norman W. Henley Publishing Co. of 2 West 45th Street, New York.

## July Strong Month for Car Sales in N. Y. Zone

Sales in All Price Classes Run Ahead of Same Month Year Ago

NEW YORK, Aug. 21.—Total sales of 35 makes of popular priced automobiles within the metropolitan area during the month of July reached 12,587, as compared with 11,151 the same month in 1925, and with 11,376 in 1924, according to figures supplied by Sherlock & Arnold. This figure brings the total for the seven months ended July 31 to 74,272, as compared to 57,872 for the first seven months of 1925, and 59,643 for the first seven months of 1924, an increase for this period, this year, of 16,400 passenger cars. This is consistent with the gain in June, 1926, over June, 1925, in which this year's figure, 10,999, showed an increase of 1,699 over the June 1925 total of 9,300.

In the higher priced field total sales for 22 cars in July, 1926, were 1,073, against 825 in July, 1925, and 609 in July, 1924, which are appreciable gains when computed on a percentage basis, if not numerically. The total for July, however, fell below those of April, May and June, when the figures were 1,799, 1,643 and 1,176, respectively, consistent with the same months in previous years.

The peak month this year, to date, in the popular price field was April, as was the case also in 1924 and 1925, while May was the peak month in 1923.

Total for 57 makes in all price classes, for the first seven months this year, is 82,271 as against 64,329 for the corresponding period last year.

Total registration of new 1926 passenger vehicles registered during the week ending July 31, was 3,781.

### New Home for Flint Sales

FT. DODGE, Ia., Aug. 21.—The Fort Dodge, Ia., Flint Company has moved from 19 North Eleventh street to the new Park Garage, 414-416 Central avenue, occupying a garage with 14,000 square feet floor space and one of the best equipped and designed in the state. Robert Driscoll is manager of the local Flint company. A complete line of parts, repair shop, 24-hour service and conveniences for patrons are some of the new accommodations provided in the new building.

### Given Peerless Franchises

CLEVELAND, O., Aug. 23.—New dealers announced by the Peerless Motor Car Corporation include one in South Africa and another in Portugal. They are:

H. K. & S. Motor Co., Franklin, Pa. O'Donnell Motor Sales, 5133-39 Irving Park Blvd., Chicago, Ill.; Midway Auto Sales & Service, Lafayette, Ind. Schneider Motor Co., Oshkosh, Wis. H. Jasper Smith & Co., Cape Town, Union of South Africa; and Alves & Coolhos, Limitada, Lisbon, Portugal.

## Bock Bearing Company Is Purchased by Timken

Consideration of Sale to Canton Organization Said to Have Been \$1,500,000

CLEVELAND, Aug. 21.—Purchase of the Bock Bearing Company by the Timken Roller Bearing Company of Canton was approved by Bock stockholders at a meeting in Toledo. The consideration is said to have been \$1,500,000.

J. S. Strough, secretary-treasurer of the Timken Company is now in Toledo taking over the affairs of the Bock Company which is controlled by Cleveland capital.

R. E. Clingan, president and general manager of Bock will be retained in his position by Timken, it is understood.

Bock stockholders, at the Toledo meeting took steps to apply proceeds of the sale to redeem preferred stock and outstanding first mortgage bonds of the company and to change the corporate name.

Bock employs between 900 and 1,000 men. Its main plant is at Phillips Avenue and the Michigan Central tracks at Toledo. It was organized to manufacture a roller bearing invented by W. E. Bock and later became a part of the Standard Parts Company of Cleveland. When the latter firm was dissolved about two years ago, Toledo and Cleveland interests gained control of the plant.

The capital structure consists of \$40,000 of seven per cent bonds; \$337,200, seven preferred stock, and 1,300 shares of no par common.

### Relinquish Franchise

SEATTLE, Wash., Aug. 21.—After ten years as dealers for the Chandler and Cleveland, the Miller-Norton Sales Company has relinquished the line, and after a short vacation expects again to be established on automobile row with another make of car.

### New Home for Edsel Ford

DETROIT, Aug. 21.—Ground has been broken for a magnificent new home on Gaulker Point for Mr. and Mrs. Edsel Ford. It will be of stone and it is said that it probably will be the costliest home in Detroit. It will face Lake St. Clair and the Detroit river.

### Buick Agency Builds

CLEVELAND, Aug. 23.—The Broadway-Buick Co. has purchased a lot at Broadway and Bruner Avenue for a consideration of \$35,000 and will erect a modern automobile sales and service building.

### Appointed by Davis

SEATTLE, Wash., Aug. 21.—F. H. Barshar, well known automobile dealer, has been named distributor for Davis in Seattle and Western Washington, with headquarters at 1621 12th Avenue.

### Business Conditions

Department of Commerce Gives Views of Current Situation

WASHINGTON, D. C., Aug. 21.—Following is the weekly statement of business conditions issued today by the Department of Commerce:

"The dollar volume of trade, as shown by check payments, was larger during the second week of August than during the corresponding period a year ago, according to the weekly statement of the Department of Commerce. The distribution of goods, as measured by carloadings, during the first week of August was likewise larger than a year ago. The production of bituminous coal and beehive coke also recorded increases over the corresponding week of 1925. The production of crude petroleum during the second week of the current month continued to increase, both as compared with the previous week and the corresponding week of last year. New building contracts awarded were larger than in the first week of the month but smaller than a year ago.

"Wholesale prices continued to decline, the general average for the second week being lower than at any time in the last two years. Loans and discounts of Federal reserve member banks increased both as compared with the previous week and the same week of 1925. Interest rates on time money averaged higher than in either the previous week or a year ago, while the discount rate of the Federal Reserve Bank of New York was advanced to 4 per cent. Call-money rates, although showing no change from the previous week, were higher than in 1925. Average prices of stocks on the New York Stock Exchange continued to mount, though the volume of trading in the second week of August, although larger than a year ago, showed a decline from the preceding week. Bond prices continued to strengthen. Loans to brokers and dealers by Federal reserve member banks in New York City increased over the previous week, while the Federal reserve ratio for the second week showed a decline from both the previous week and the corresponding week of 1925. Business failures, although less numerous than in the first week of August, were larger than in number than a year ago."

### How Apex Innerings Are Cut

In an advertisement of the Thompson Manufacturing Co., which appeared in the July 15 issue of *Motor Age*, the statement was made that the Apex Innering is "cut at the crimp." This should have read "cut between the crimps," but through an oversight the advertising copy contained the incorrect statement. The manufacturer explains that the cut between the crimps is an important feature of the Apex Innerings, having much to do with their satisfactory service.

## Ford Riding Prosperity Wave in Oregon Business

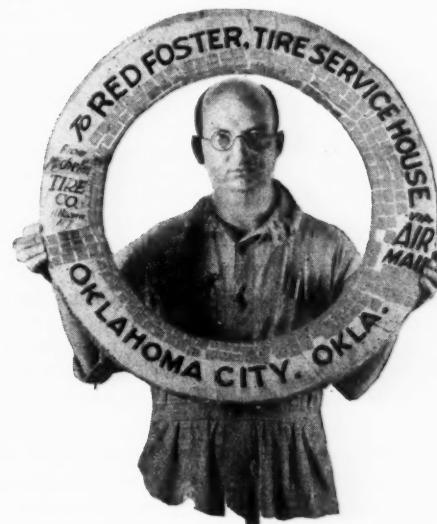
Portland Branch Manager Says Territory's Sales Are Heaviest in History

PORTRLAND, Ore., Aug. 21.—"Nineteen twenty-six has been a wonderful year for the Ford organization in Oregon," said F. H. Hull, local Ford branch manager.

"We at the branch are building more cars and our dealers throughout our territory are selling more cars than ever before, which means that our organization is taking part in the general wave of prosperity that has swept over the Northwest. Our retail sales of all our products for the first seven months of this year have shown a very healthy increase over the sale during the same period of 1925, the sale of cars and trucks alone showing an increase of 21 per cent. A good part of this increase can, no doubt, be attributed to the last reduction in price.

"The reduction, which averaged \$45 per car, was for the express purpose of stimulating business, and to say that it was effective is putting it mildly."

\$39 in Stamps Placed on Tire Sent by Air Mail



Red Foster's Tire Service House at Oklahoma City took advantage of an opportunity for publicity when the Michelin Tire Co., Milltown, N. J., was about to send him its billionth tire. He had the tire sent by air mail and had it received ceremoniously by a "Michelin man." This is said to have been the first tire that ever moved by air mail and the heaviest piece of air mail to be sent over the Chicago-Dallas route. It weighed 16 pounds and was decorated with stamps costing \$39. The time in transit was 17½ hours.

## Tire's Capacity to Stand "Bumps" Tested by U. S.

### Government Adopts Novel Checking Systems as Guide to Buying

WASHINGTON, Aug. 23.—Uncle Sam will not buy a tire unless it will stand up under 1,296,000 bumps within 48 hours without showing signs of wear, it has been revealed here.

To find out whether automobile tires offered for Government service can meet this rigid requirement tests are being made at the Bureau of Standard without leaving the laboratory. It is known as the shock test and is unusually severe.

The tire to be tested is mounted upright in stationary bearings, the tire tread pressing the flat rim which turns at a 30-miles-an-hour rim speed. The tire hits three cleats set in the rim so that each turn of the wheel gives three bumps to the tire—9,000 bumps to the mile. These shocks are more severe than met with in ordinary road service, yet tires to be acceptable to the Government use must stand 48 hours of continuous running, 27,000 severe bumps per hour or 1,296,000 bumps in all, without showing signs of wear.

Many tires hold up under this grueling grind even under pressure loads as high as 1½ tons. A graphic chart of test results obtained shows that some of the tires long out-live the required minimum of useful life.

#### Troy Spreads Out

LOS ANGELES, Aug. 23.—The Nash dealers organization in Southern California is being materially strengthened under an expansion program inaugurated by the Troy Motor Sales Company, of Los Angeles, distributors. Among the recent dealer appointments are the Bakersfield Nash Corporation, at Bakersfield, headed by L. E. Nance, president, and C. E. Houchlin, vice president; Crakes & Chambers, at Santa Maria, with F. W. Crakes and J. H. Chambers, as partners; and the Clark-Nash Motor Sales Company, headed by Paul Clark, of Anaheim.

#### Only Slight Summer Slump

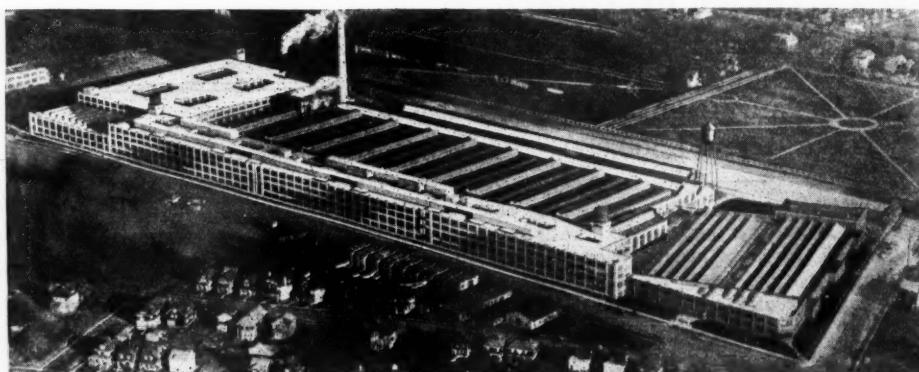
CLEVELAND, O., Aug. 23.—The usual mid-summer slump in the manufacture of automobiles has failed this year to cause the customary curtailment in operations among Cleveland's car makers.

This is indicated clearly by announcements from two separate sources at the close of business of July.

One of the announcements came from the manufacturers themselves, and the second came from employment agencies and the labor statistical bureau of the Cleveland Chamber of Commerce.

The employment agency and Chamber of Commerce surveys show that Cleveland automobile manufacturers employed slightly fewer workmen during July

## Where Flint Cars Now Are Made



*This is the Durant Motors plant at Elizabeth, N. J., in which Flint cars now are being made. The former home of Flint at Flint, Mich., is to be used by General Motors for construction of Fisher bodies for Buick enclosed cars.*

than they did in June, but considerably more men than were employed during July of 1925.

This would indicate that the past month brought in more in the matter of orders and production than the corresponding period of a year ago and slightly less than the volume of trade during June this year. This is exactly the claim of the car makers.

The prospects for August are good, and from all indications the true barometer of output—the number of workmen employed and size of the payrolls—is going to soar higher in August than it did during July and materially higher than its maximum height of August one year ago.

#### Kissel Signs Distributor

NEW YORK, Aug. 23.—The Exclusive Auto Sales, Inc., has been appointed by the Kissel Motor Car Co. as its New York City distributor. The company has opened salesrooms at 1093 Park Avenue.

Kissel has been out of New York since January first, at which time Sidney B. Bowman, the oldest Kissel distributor, retired from active business.

#### Not Called That Any More But, Etc.

MILWAUKEE, Aug. 23.—The detour, bane of motorists everywhere, is a thing of the past in Wisconsin—so far as the name is concerned. By way of removing a thorn in the side of resident and out-of-state tourists, the Wisconsin state highway commission has decided to abandon the use of the word detour, and henceforth roads serving as temporary routes while trunk highways are being built or repaired will be known as "Temporary." The change is based almost entirely on the psychology of the situation, and in the brief time since it is in effect, appears to be more than justified in the more friendly attitude of tourists.

#### Distribute Rickenbacker

MILWAUKEE, Aug. 23.—The Milwaukee Rickenbacker Co. is a new corporation organized under the laws of Wisconsin with \$15,000 capital stock to become distributor of the Rickenbacker in the Wisconsin territory. Headquarters have been established at 256-460 Jackson Street, Milwaukee. The Rickenbacker has been without direct representation in the territory for about three months, since the franchise was relinquished by Chidester-Frinx, Inc., Ray C. Chidester and E. G. Seward having organized Chidester-Seward, Inc., to become Wisconsin distributor of the Hupmobile.

#### Chevrolet Leads In County

SPOKANE, Aug. 24.—According to the records of the Washington Automotive Trades Association Chevrolet led new car sales in Spokane county, Washington, for July, 68 new buys having been found by the Wells Chevrolet Company, distributors. Ford ranked second with 64, while Dodge Brothers found favor with 19.

In the six cylinder field Buick and Essex were tied for first place with 18 each. Overland and Star came next with 17 each. Nash and Oldsmobile each sold 15.

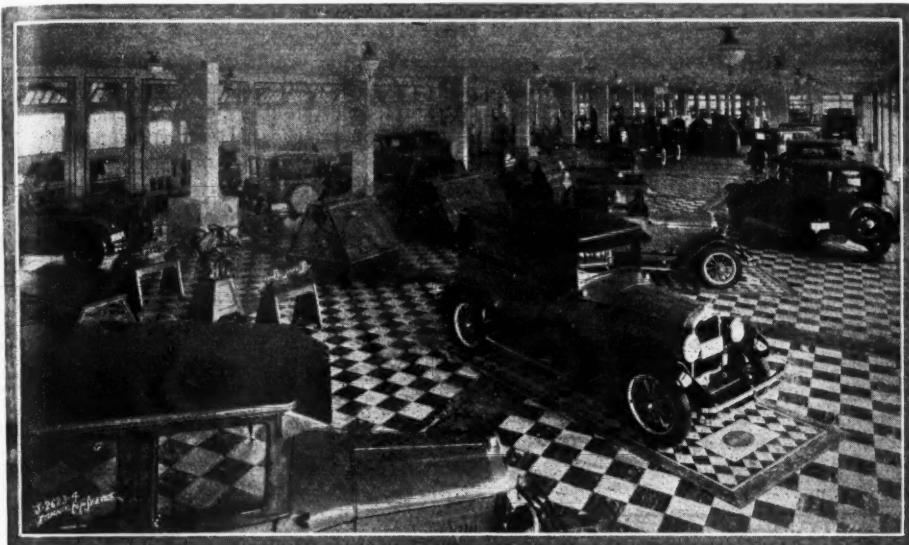
#### New Vacuum Breaker Valve

CLEVELAND, O., Aug. 21.—The United States Air Compressor Co. announces perfection of a new vacuum breaker valve which enables the company's car washing equipment to be connected direct to city water pipes and allows a working pressure of 300 pounds to be maintained even when the city pressure is as low as 25 pounds.

#### Takes on Chevrolet

PROVIDENCE, R. I., Aug. 21.—W. A. Mulry, 776 Elmwood ave., Providence, R. I., has taken over Chevrolet for the Providence territory formerly controlled by the Sills Chevrolet Co. Mr. Mulry formerly handled Lincoln, Paige and Jewett and Hudson and Essex.

## G. M. Show Room on Steel Pier at Atlantic City



The new General Motors show room on the steel pier at Atlantic City which attracted more than 200,000 visitors the first thirty days of its existence. In that period it is said prospects were obtained from almost all of the states and practically every country of the world. All the various products of the corporation including automobiles, parts, accessories, electric refrigerators, farm lighting plants, etc., are on display here.

### Sales Off 13 Per Cent

CHICAGO, Aug. 21.—According to statistics compiled by the Indianapolis Auto Trade Association the decline in car sales in Indiana in July as compared with June amounted to 13 per cent. Analysis of the association's tabulations shows further that July's decline in new car sales in that state for Ford, compared with June, amounted only to 4 per cent, it being apparent that Ford ran more on an even keel during the period's seasonal slump than any other make.

The total new car registration for all makes in July was 11,369 compared with 13,127 in June, making a numerical difference of 1,758 less for July. Ford's July total was 4865 against 5100 in June, making a numerical difference of 235 units. Ford had 38 per cent of the total sales in June and 43 per cent in July. The nearest make to Ford for the two months had 35 per cent of the total Ford registration.

### Hold Up License Buying

CHICAGO, Aug. 21.—Indicating a quite popular tendency on the part of June's new car buyers to wait until July before buying license plates in order to save half the year's fee, registration totals for Illinois in July show an increase of 22 per cent over June's total. The tabulations which were compiled by Robinson's Advertising Service, Springfield, Ill., credit July with 24,879 new car sales against 20,327 for June although it is generally agreed that actual sales in July were less than the sales in June.

Ford is credited with 8324 registrations in July or 33 per cent of the total as against 31 per cent of the total for both June and July. Ford's June registration

is given as 5884. The make nearest Ford for the two months had 48 per cent of the Ford total for that period.

### Blame It on Balloons

WASHINGTON, Aug. 23.—The change from high-pressure to low-pressure types of tires is largely responsible for the large percentage of rubber consumption used in the manufacture of tires and tire sundries, an increase from 73 to 83 per cent being recorded from 1918 to 1925.

The foregoing is set forth in the annual survey of the rubber industry contained in the Department of Commerce Yearbook for 1925 just made public here.

Crude rubber imports, according to the yearbook, set a new high record of 888,478,000 pounds, 20.9 per cent more than in 1924.

The value of the 1925 imports was \$429,705,000 as compared to \$174,231,000 in 1924.

### He Sells 34 Cars in 30 Days

SEATTLE, Wash., Aug. 23.—O. L. Mize, of the Sands Motor Car Company, Studebaker distributors, established a sales record for June, selling 34 cars during the 30 day period. He disposed of eleven new Studebakers and 23 "Sands Plan" used cars.

Mr. Mize is a veteran with Studebaker. Prior to coming to Seattle two years ago he was Studebaker dealer at Bisbee, Ariz.

## Southeast Bids for New Record in Tractor Sales

### Prosperity Wave Increasing Buying Power of Dixie's Rural Buyers

ATLANTA, Ga., Aug. 23.—Farm implement and tractor sales in the southeastern territory during the first seven months of 1926 have reached a volume exceeding that of the first seven months of 1925, in spite of the fact that a new record was established last year by the industry.

Tractor sales for farm use have been particularly heavy this season showing a substantial gain over the best previous year for the same length of time, but sales of tractors for industrial use have not shown much of a gain this year, remaining on about a normal basis. The agricultural industry in the South enjoyed a prosperous season in 1925, and has promise of another prosperous season this year, which accounts for the increase in the purchasing power of southern farmers.

It seems almost certain that tractor and power farming equipment sales in the South will be the largest this year they have ever been in this district.

### High Score in DB Contest

SEATTLE, Wash., Aug. 21.—Showing an increase of 211 per cent over July, 1926, W. L. Eaton, Dodge Brothers dealer in Seattle, easily outclassed all Class B Dodge Brothers dealers in the Pacific Northwest in the recent sales contest staged by the factory. July was the biggest month in the history of the Eaton concern.

Sharing in Eaton's record is the Seattle district, which comprises Washington, Oregon, Idaho and a portion of Montana. The Seattle district was second in competition with 24 other similar districts in the United States.

### Chevrolet Zone Changes

SEATTLE, Wash., Aug. 24.—A. Parker, representative of the Chevrolet Motor Company in the Seattle district, has been promoted to fill the position of assistant to W. J. Richmond, zone sales manager with headquarters at Portland, Ore., succeeding G. D. Ballenger. The latter has been transferred to Oakland, California, where he will continue in his former capacity as assistant sales manager under A. W. Bagquist, in charge of zone No. 6, comprising Northern California and Nevada. George F. Wales has been selected to fill the vacancy in the Seattle territory.

### Set German Show Date

BERLIN, Aug. 18.—The German Automobile Exhibition for 1926 will be held in Berlin from Oct. 29 to Nov. 7. The show will include passenger cars, commercial vehicles and motor cycles.

## Record Demand for Shop Equipment in the South

### New Machinery and Tools Are More Active Than "Used" and "Rebuilt"

ATLANTA, Ga., Aug. 23.—Notwithstanding the fact that there were two months during the first half of the year when garage equipment and machinery sales were at a very low ebb due to the lateness of the Spring, two of the largest distributors in the South, both located in Atlanta, state that a record volume of this business was done during the first six months of 1926, and that sales during July have held up on an even larger average basis.

It is interesting to note also that the demand is particularly good for new machinery and tools, and that used and rebuilt equipment is not proportionately as active as usual. Heavy machinery has been in particularly good call such as lathes, cylinder grinding machines, drill presses, etc.

Business began to grow active in April, then became unusually active in May and June, these being among two of the largest months in the history of the industry in the southern district, offsetting the losses earlier in the season and making sales the first six months reach record volume. Indications are that sales will continue to hold up on this basis through the rest of the summer and at least into the early part of the Fall.

#### Olds Distributors Meet

SPRINGFIELD, Ill., Aug. 21.—Distributors of Oldsmobile in Illinois assembled here recently for a sales promotion session. Among the speakers were C. W. Hurst, general manager of the Chicago branch; C. E. Valentine, traveling representative; and Messrs Chalmers, Carter, and Baine of the General Motors Acceptance Corporation. A review of the business for the past year, and the outlook for the year to come, featured the talks by the factory representatives. The speakers were in an optimistic frame of mind and their remarks created much enthusiasm. A banquet closed the program.

#### Important Duluth Changes

DULUTH, Minn., Aug. 21.—Several changes have taken place here in automobile distribution. The Pence Automobile Co., wholesaler of Buick cars at Minneapolis through nine northwest branches, has taken over the Duluth territory from the Pioneer Auto Co., which has represented it eleven years, and will occupy the former Bradley-Kent building, 304 East Superior street.

The Pioneer Auto Co., H. S. Wenger, proprietor, has taken on the Chrysler line, formerly handled by the Arrowhead Motors, Inc., to distribute in 18 counties of Minnesota. W. G. Hoskin will continue as manager, and R. J. Nolan, for-

## Much Higher Rate for Increase in Rural Motor Fatalities Than in Cities

NEW YORK, Aug. 21.—Rural motor fatalities increased 23 per cent in 1925, against an estimated increase of 10 per cent for the country as a whole, according to a survey just completed by the National Automobile Chamber of Commerce, which sees the need for focusing attention on the betterment of traffic in the country districts.

Figures on rural fatalities this year are not available, but so far in the cities there has been a slight decrease from the same period last year, although May, 1926, was over May, 1925. On the whole there is a possibility that the time in motor accidents, rising over a long period of years, has at last turned.

merly Arrowhead Motors, will be special wholesale representative, at 418-422 East Superior street.

The Bradley-Kent, Inc., organization will sell Willys-Knight in Duluth territory at 311 East Superior street.

### Newly Created Cadillac Post Given to Dunivan



Jay W. Dunivan

DETROIT, Aug. 21.—Jay W. Dunivan, manager of distribution of the Cadillac Motor Car Co., has been promoted to assistant general sales manager in charge of distribution, according to H. M. Stephens, general sales manager.

The position is a new one in the Cadillac organization. It was created as a result of the company's more complex distribution activities resulting from an 87 1/2 per cent sales increase during the past 12 months and the addition of many body styles in both the standard and custom-built lines. Personnel at the plant has also been increased to permit more contacts with distributors in the field.

Mr. Dunivan's entire business career has been with Cadillac, with the exception of an early apprenticeship in industrial and retail accounting. He joined Cadillac in 1908.

#### New Car Recovery System

NEW YORK, Aug. 21.—Police Commissioner McLaughlin has put into effect a new system for recovering stolen automobiles through cooperation of garage-men and used car dealers. Previously the owner reported the theft of his automobile to police headquarters. Then all precincts were notified and the policemen on their posts informed by telephone.

Under the present system every garage in the city is informed of the theft, make of car, license and motor number and a description of its condition within half an hour after the car is reported stolen.

On the following day a printed list is mailed out from headquarters to every garage owner or used car dealer in the city, listing all motor cars, new or old, stolen or unaccounted for to date. There are 5,000 such lists distributed daily. An effort is now being made by Commissioner McLaughlin to interest private garage owners in the system.

#### Rebuilding After Fire

BUFFALO, N. Y., Aug. 21.—B. W. Welsh, owner of the Buick Garage in Main Street, Batavia, has begun construction of a three-story brick and steel garage in Russell Place, that city, replacing the Leadley-Woods garage, destroyed by fire last winter. The building will be 155 by 82 feet and cost \$70,000.

#### Sell Peerless at Oshkosh

MILWAUKEE, Aug. 21.—The A. E. Dufenhorst Co., Milwaukee, distributor of the Peerless in Wisconsin and Upper Michigan, has announced the award of a Peerless dealer franchise for Oshkosh, Wis., and vicinity to the Schneider Motor Co., 904 South Main Street, Oshkosh.

#### Transferred by Ford

CHARLOTTE, N. C., Aug. 24.—J. T. Jones arrived here to become assistant to the manager of the Lincoln division, wholesale department, of the Ford Motor Company's branch. He was transferred from Dallas, Texas, where he was a member of the Ford organization.

#### Burke & Gantz Change Name

CHICAGO, Aug. 21.—The Burgan Corporation is the new name of the company formerly known as Burke & Gantz, manufacturers of the Burgan cotter pin "Super-Puller."

## Says Two-Car Family Soon Will Be as Common as One-Car Family Now

MILWAUKEE, Aug. 21.—W. Harry Cahill, sales manager of the Jesse A. Smith Motor Car Co., Milwaukee, distributor of the Hudson and Essex, entertained nearly 250 dealers in the Wisconsin territory at a conference to hear Harry G. Moock, promotion sales manager at the factory, discuss plans for the new year. Mr. Moock emphasized the fact that the industry is on the verge of a two-cars-per-family market, and on this basis alone scouted the favorite "point of saturation" idea.

"There are now ten times as many cars in use than when we first heard of motor car saturation point," said Mr. Moock. "The two-cars-per-family will soon be as common as the one-car-per-family already has become. For proof, note the high percentage of two-car garages being built with one-family homes. Families who like touring or have summer places are buying used cars for the rough work and keeping their 'good' car for better service and appearance. The business man, harassed by traffic and parking tribulations, or desiring to serve his family better, is buying a second car for business and leaving the other car at home."

### Heavy Fire Loss

MILWAUKEE, Aug. 21.—One of the worst garage fires in Milwaukee in years was that which heavily damaged the building at 606-626 Linus Street, occupied jointly by the Parker Motor Truck Service, Inc., and the Milwaukee Truck Service Co., Inc. The fire is believed to have been caused when a truck just in from a long run was being replenished with fuel, and drops of gasoline falling on the hot manifold ignited the truck in the Milwaukee Truck Service, where it spread to 35 loaded trucks of the Atlantic & Pacific Tea Co. The building was 125x200 ft., one-story, and insured for \$50,000. The Parker company carries insurance of \$33,000 and the Milwaukee Truck Service \$43,000.

### To Handle Stearns-Knight

LOS ANGELES, Aug. 21.—Collins & Lusby, Inc., of Los Angeles, is a new firm that has been organized here to handle the distribution of the Stearns-Knight automobiles in Southern California. Members of the company are L. S. Collins, formerly general manager of a Los Angeles brick company, and Al Lusby, who previously has been with one of Los Angeles' distributing organizations.

### Lumbermen for Wooden Bodies

WASHINGTON, Aug. 21.—Using the argument that wood automobile bodies deaden engine noises, the National Lumber Manufacturers' Association, with headquarters here, has launched a campaign to convince the trade and the public of the superiority of automobile bodies made by their members. The association cites recent tests conducted at the U. S. Bureau of Standards which it declares showed that cars with closed bodies which are framed with wood, shut off from the occupants more than 99 per cent of the noise originating in the engine and transmission and from contact with the road which is transmitted by the steel frame.

It is further argued in the statement that bodies in which the metal surface is attached to a steel framework let more than 100 times as much noise through

to the passengers. The more rigid the connection between chassis and the material which forms the interior finish of the car the more easily sound is transmitted. In conclusion it is stated that the Bureau of Standards found that partitions made with wood framing and covered with lath and plaster transmit less than one-hundredth as much sound as those of lath and plaster with metal framing.

### Plan Tractor Campaign

EVANSVILLE, Ind., Aug. 21.—Farmers of southern Indiana and Illinois, and western Kentucky this fall will be given practical demonstrations of the proper operation and utilities of the motor tractor with the launching of an extensive series of International tractor demonstrations. The demonstrations will be conducted by the local distribution branch of the International Harvester company, and will begin in October, H. L. Logsdon, representative, announced.

## Bill Makes Examination Of Brakes Compulsory

OAKLAND, Cal., Official Would Require Inspections at Regular Periods

OAKLAND, Cal., Aug. 23.—An ordinance has been drawn up for presentation to the city council by Frank Colburn, commissioner of public safety which calls for compulsory examination of brakes on every automobile in this city at fixed periods.

The new bill, which has the support of the city council and of the East Bay Safety Council, covers both passenger and commercial vehicles. Brakes are to be tested the same as headlights, and each driver must carry and display his latest and proper brake-test certificate at all times.

Preceding the adoption of the ordinance, the safety council has made arrangements to conduct an educational and inspectional campaign on brakes throughout the city, August 23 to 28. This is believed to be the first city in the United States to enforce brake tests.

### Peerless Family Grows

CLEVELAND, O., Aug. 21.—New dealers announced by the Peerless Motor Car Corp. are:

Alvey Motor Company, Wichita Falls, Tex.; J. A. Becker, Cobleskill, N. Y.; Fred E. Meyers, 187th St. and Grand Concourse, Bronx, N. Y.; Sunset Motor Sales, 6122 Fourth Ave., Brooklyn, N. Y.; Mathy's Garage and Machine Shop, Oneonta, N. Y.; George W. Brockhausen, Freeport, Ill.; South Shore Peerless Sales Co., Merrick Road, Valley Stream, L. I., N. Y.; Peerless Morristown Co., Inc., 16 Washington Street, Morristown, N. J.; Highland Motor Sales & Service, 1219 Flatbush Ave., Brooklyn, N. Y.; Fritz Company, Lawrence, Kans., and Martel Peerless Corp., Cooper Ave. and Edson Place, Ridgewood, N. Y.

### Plane Used in Continental's Air Service



Fokker three-motor monoplane owned by Continental Motors Corp.

The Continental Motor Co. recently opened its air service between the company's two plants in Detroit and Muskegon with a big demonstration in which eleven airplanes, including the Continental's three-motor Fokker monoplane, participated. Naturally the Continental plane, shown in the picture, was the central feature of the show. It was piloted by Lieut. G. R. Pond and covered the 200 miles from Detroit to Muskegon in one hour and fifty minutes.

# TRADE ASSOCIATION ACTIVITIES

## FORM EASTERN DIVISION

### New Group in Washington State Organization Headed by Walter Evans

SPOKANE, Wash., Aug. 23.—A dealers' division has been formed by the Washington Automotive Trades Association for eastern Washington. Walter Evans, manager of John Doran Company, Hudson-Essex distributors, is president; L. G. Bellinger of Bellinger-Burrows, Oakland-Pontiac distributors, is vice-president; Roy Dahl, manager of the Spokane Nash Motor Company, is secretary.

The purpose of the organization is to look after the dealer group's welfare and give it a stronger position in the association.

The new division practically replaces the old Spokane Auto Chamber of Commerce. Meetings are being held weekly and with the new basis of dealer membership it is expected that the influence of the dealer group in the community will be greatly strengthened.

James Whitelaw, president of the association's eastern Washington branch, declared that he is well pleased with the new division and that the association as a whole will benefit greatly by it. He also declared that there is much sentiment in favor of a strong dealer group in the western part of the state, with headquarters in Seattle.

### 3000 Dealers at Meetings

CHICAGO, Aug. 23.—The merchandising meetings conducted by the Automotive Equipment Association in Iowa and Nebraska the last two weeks were among the most successful in the history of the association's sales development work. At five meetings a total attendance of nearly 3000 retail dealers was registered.

The following meetings were held, with the attendance at each: Davenport, Iowa, July 24, 500; Dubuque, Aug. 3, 750; Waterloo, Aug. 6, 285; Des Moines, Aug. 12, 750; Omaha, Neb., Aug. 13, 650. The Des Moines meeting was promoted by the Herring Motor Co., and the sponsors for the Omaha meeting were the Nebraska Buick Auto Co., Storz Western Auto Supply Co., and the Omaha Automobile Trade Association.

Speakers at these meetings included Joe Kellerman, sales manager of Hudson-Frampton Co. of St. Louis; A. L. Spafford, vice president of McQuay-Norris Mfg. Co., and Henry Kirkland, special merchandising representative of the A. E. A.

### Raise Fund for Bob Bland

CHICAGO, Aug. 21.—Friends of Bob Bland, first president of the National Garage Owners' Association and later manager of the Illinois and Chicago Garage Owners' Associations, have undertaken to raise a benefit fund to assist Mr. Bland through an emergency caused by a nervous breakdown he suffered about a year ago.

A benefit committee organized by Chicago garagemen has issued an appeal stating:

"Bob Bland devoted 17 years of untiring energy to the success of our industry and rendered valuable assistance in securing helpful legislation which the

garage owners are enjoying today. Bob Bland is physically out; been on his back for more than a year, a victim of nervous breakdown, resulting in heart affection. There is a chance to pull Bob Bland through and this committee feels that every old friend of his in the industry will gladly lend a hand to help put him over."

The committee has opened a Bland Benefit Fund account at the Harbor State Bank of Chicago. The chairman of the committee is Robert Janota, Rex Garage 6919 Stony Island avenue, Chicago.

### Adopt Legislative Program

RIGHTSVILLE BEACH, N. C., Aug. 21.—Sweeping revision of the North Carolina laws providing for the regulation of motor traffic and the automotive trade, and the repeal of taxes imposed on manufacturers, distributors, dealers and salesmen of automobiles was demanded in the legislative program adopted by the North Carolina Automotive Trade Association in semi-annual meeting here. The program will be submitted to the State Legislature when it meets early next year at Raleigh.

Henry W. Masten, of Winston-Salem, president of the association, presided at the business sessions of the two-day convention. The legislative program, submitted by a committee, of which John W. Fitz, of Winston-Salem, was chairman, was adopted as submitted, that being the principal business of the meeting.

The principal speakers heard by approximately 200 members and guests of the association were N. C. Damon, of Washington, D. C., representing the National Automobile Chamber of Commerce, and General Albert Cox, of Raleigh, general counsel for the North Carolina association. Mr. Damon emphasized the importance to the automotive trade of the special hearing the Interstate Commerce Commission will hold September 15 at Asheville, N. C., when all parties concerned will be heard on proposed regulation of interstate motor bus and motor truck transportation.

### Committees Appointed

MEMPHIS, Tenn., Aug. 21.—Committees appointed by Harter B. Hull, president of the Memphis Automobile Dealers Association, are as follows: Membership, Frank Graham, chairman, C. W. Watkins and R. R. Price; Automobile Show, Thomas H. Smart, chairman, Iver Schmidt, C. G. Schmidt; Entertainment, George Wallace, chairman, B. F. McCreery and Lacey Whitten; Advertising, J. K. Dobbs, chairman, W. H. Claypool, H. L. Bickel and W. D. Mathis; Resolutions, Frank N. Fisher, chairman, J. E. Dodge, S. H. Butler and Robert G. Chambers; Legislation, W. K. Edmunds, chairman, Thos. H. Smart, John T. Fisher and Frank N. Fisher; Used Cars, J. P. Parker, chairman, Arthur J. Doyle and J. C. Snyder; Sales Managers Bureau, Tom Brown, chairman, and Will Pryor; Good Roads, affiliated chairman, Thomas B. King.

Considerable progress is being made on plans for the Automobile Show, to be a part of the Tri-State Fair the coming September. The official title of the fair will be "The Tri-State Fair and Automobile Show."

### FIGHTING RETREAD "GYPPER"

#### Los Angeles Association Would Make Real Junk of Junked Tire

LOS ANGELES, Aug. 23.—A determined campaign to drive the tire retread "gypper" out of business has been launched by the Los Angeles Automobile Trade Association in cooperation with tire wholesalers and factory branches. Every legitimate tire dealer has been asked to pledge with his signature that he will cut the beads or treads sufficiently to destroy for retreading purposes all tires sold as junk. An excellent response to the appeal sounded by James E. Granger, secretary of the association, has already been received.

"Retreads on junk carcasses have been the cause of the loss of hundreds of thousands of dollars to the motorists in Southern California," declares the report to the trade issued by the association. "The retreading industry was absolutely demoralized several years by this vicious practice carried on by unscrupulous vulcanizers. The confidence of the public in a retread was absolutely destroyed. Resistance which was built up in the minds of the motorists against the sale of a retread stood firm against the attack of the best workmen and the most legitimate merchants until the raise in the price of rubber again forced into this market the buyer of small capital."

"We are again facing the very same situation that was presented to the industry once before, namely the retreading of junk carcasses by unscrupulous and irresponsible vulcanizers and retreaders."

### Finance Concerns Band

MILWAUKEE, Aug. 21.—Laurence M. Jeger, president of the Standard Securities Co., Pioneer Building, Milwaukee, has been elected president of the newly organized Wisconsin Association of Finance Companies, consisting of virtually all concerns handling automotive paper in the state. W. M. Culp of Milwaukee was elected vice-president, and E. W. Genens, also of Milwaukee, secretary and treasurer. Directors include W. J. Knight, of Monroe; Dr. L. E. Spencer, of Wausau; C. H. Lohr, of Harryford, and W. A. Anderson, of Wisconsin Rapids.

The association has incorporated under the laws of Wisconsin. Its objects are to encourage uniform business practices and advance the standard of the business.

### Holiday at Rochester

BUFFALO, N. Y., Aug. 21.—Members of the Rochester Automobile Dealers' Association were guests of the Buffalo Automobile Dealers' Association at its annual outing at the Hamburg fair grounds. Edward C. Bull, Herman Kinne, Carlton Proctor, secretary of the Buffalo association, Mason B. Hatch and Charles Fletcher were in charge of the outing. A boxing bout featured the day's entertainment. A musical program entertained during the dinner.

### Webster Back at Desk

CHICAGO, Aug. 21.—William M. Webster, commissioner of the Automotive Equipment Association, who has been ill most of the time since the A. E. A. summer convention in Montreal in June, has returned to his office.

## Numerous Shifts Suggest Activity at Golden Gate

### San Francisco-Oakland District Recent Scene of Many Changes in Trade

SAN FRANCISCO, Cal., Aug. 23.—Probably nothing this summer has so well shown the general upward trend of automotive merchandising in the cities around San Francisco as the number of promotions which have been made and the number of new men who have been added in important positions. There have been several expansions, and changes, the latest of which is the taking over of the Paige-Jewett line by Hamlin & Wichman, one of the oldest and largest automobile concerns in Oakland.

Baston-Price, Inc., has been organized by S. E. Baston and W. W. Price, former executives of accessory firms in San Francisco. The new company handles accessories. Headquarters are in San Francisco.

A. L. King has been appointed Gardner distributor in Alameda, Contra Costa, and Santa Clara counties, all on the shores of San Francisco bay.

George Fortune and T. W. Moore have been named executives of the Tucker Motor Company, largest Hudson-Essex dealers on the mainland side of San Francisco bay. Their headquarters will be in Oakland.

Roy S. Busby, traffic manager of the Chevrolet Motor Company of California, has been promoted to be assistant to D. R. Scharf, traffic director of the Chevrolet Motor Company, at Detroit. George D. Cron, assistant to Mr. Busby, has been promoted to be traffic manager of the Chevrolet Company of California.

Owen Wright, for a number of years connected with the accounting department of the Pacific Coast Star Factory, at Oakland, has been appointed controller and treasurer of this corporation, according to announcement by Norman de Vaux, vice-president and general manager.

R. W. Moore has been appointed manager of the Oakland branch of the White Company, according to announcement by P. E. Letsinger, San Francisco district manager.

George H. Bean has been named sales manager for the California Auto Sales Company, Star dealers in Oakland.

E. T. Tully, former manager of the Star Pacific Coast Factory organization, has been named sales director of the same corporation by Norman de Vaux, vice-president and general manager. Ernest S. Jones remains sales manager for the growing concern.

M. R. Brookwalter, and George B. Eckhart, of the Chevrolet Motor Company of California, have formed a partnership, and opened salesrooms at San Jose under the name of the Garden City Chevrolet Company.

G. D. Ballenger has been appointed

## Coming Motor Events

### Automobile Shows

1927 NATIONAL SHOWS	
New York	Jan. 8-15
Chicago	Jan. 29-Feb. 5

Boston, Mass.	March 5-12
Boston, Mass.	Sept. 27-Oct. 2
Radio Exposition, Mechanics' Bldg.	
Chicago	Jan. 29-Feb. 5
Annual Salon, Hotel Drake.	
Chicago	Nov. 8-13
Show and convention, Automotive Equipment Ass'n, Coliseum.	
Chicago	Nov. 15-19
Show and convention of the National Standard Parts Ass'n, Hotel Sherman.	
Chicago	Sept. 27-Oct. 2
National Radio Exposition.	
Dallas, Tex.	Oct. 9-24
Automobile Bldg.	
Elizabeth, N. J.	Oct. 22-30
Second Regiment Armory	
Kansas City, Mo.	Feb. 12-19
Kansas City Automobile Show	
Los Angeles	Feb. 12-19
Annual Salon, Hotel Biltmore.	
New York	Nov. 24-Dec. 4
Annual Salon, Hotel Commodore.	
New York	Sept. 13-18
Madison Square Garden, Radio World's Fair.	

San Francisco..... Aug. 21-28  
Pacific Radio Exposition, Exposition Auditorium.

St. Louis..... Sept. 4-19  
Industrial Exposition, Forest Park.

### Races

Altoona, Pennsylvania	Sept. 6
Atlantic City, N. J.	Sept. 25
Dallas, Texas	Nov. 11
Los Angeles, Cal.	Nov. 25
Philadelphia	Sept. 4-11
National Air Races	
Salem, New Hampshire	Oct. 12

### Conventions

Automotive Equipment Association, Coliseum, Chicago	Nov. 8-13
National Automobile Dealers' Association, Ohio Council, Columbus	
.....	Sept. 23-24
National Association of Finance Companies, Palmer House, Chicago	
.....	Nov. 15-16
National Standard Parts Association, Hotel Sherman, Chicago	Nov. 15-19
National Tire Dealers Association, Inc., Memphis, Tenn.	Nov. 16-18
Pennsylvania Automotive Association Elks' Home, Philadelphia	Oct. 18-19
Society of Automotive Engineers, Transportation and Service Meeting, Boston, Mass.	Nov. 16-18

### COMING FEATURE ISSUE OF CHILTON CLASS JOURNAL PUBLICATIONS

September 15—Commercial Car Journal—Annual Bus Issue  
September 10—Operation & Maintenance—Annual Bus Issue

September 30—Automotive Industries—Annual Production Issue

assistant to the zone sales manager of the Chevrolet Motor Company of California, at Oakland, according to announcement by Fred N. Coats, regional sales manager.

Claude Girvin, who has been connected with Bell & Boyd in Oakland for some years, has been appointed manager of the San Pablo branch of these Willys-Overland dealers.

George J. Goeppert has been appointed manager of the East Oakland branch of the J. E. French Company, Dodge distributors of San Francisco.

### Less Use for Railroads

WASHINGTON, Aug. 21.—The automobile is fast displacing the steam railway in Denmark. So much so is this a fact, that a report has just been made by a specially appointed commission to the Danish Parliament, recommending that 34 of 40 projects for new railway construction, be abandoned. Before they can be completed and made to pay they will become obsolete the report declares.

### Award Buick Franchise

MILWAUKEE, Aug. 21.—The Milwaukee branch of the Buick Motor Co., F. E. Truax, manager, has awarded a Buick dealer franchise to the Fleischer Motor Co., 705 Chestnut Street, Milwaukee. This is the eighth member of the Milwaukee county Buick community dealers' organization.

### Olds De Luxe Coach Lists \$1050

LANSING, Mich., Aug. 21.—No change has been made in the price of the Oldsmobile De Luxe Coach, according to a factory statement. The De Luxe Coach lists at \$1050 and not \$1150 as stated in an item published in Motor Age Aug. 5.

### Auburn Issues Contracts

AUBURN, Ind., Aug. 21.—Auburn Automobile Co. has appointed as distributor the Craft Motor Co. of Cedar Rapids, Ia.

The company also has named the following dealers:

C. A. Stapleton, Lawrence, Kans.; R. N. Hotze, North Topeka, Kans.; Dr. A. H. Heaton, Sedalia, Mo., Dr. C. C. Mount, Polo, Mo.; A. H. Reisig, Russell, Kans.; Johnston Radiator Service, Hamilton, O.; The East Jersey Auto Sales, Inc., Elizabeth, N. J.; B. & M. Garage, White Plains, N. Y.; Brooklyn-Auburn Sales, 271 41st St., Brooklyn, N. Y.; O. J. Surber, Acton, Ind.; Warrington Motor Car Co., Richmond, Va.; Northwest Garage, Grand Rapids, Mich.; Earle L. Holmes, Patchogue, L. I., N. Y.; Mercer Auto Sales Co., Bluefield, W. Va.

### Automotive Legislation

WASHINGTON, Aug. 21.—A total of 17,812 bills were introduced in the first session of the 69th Congress of which number 759 were enacted into law.

Of the total number enacted the two major pieces of legislation affecting the automobile industry was repeal of the excise taxes and the \$150,000,000.00 federal aid highway bill.

## Prices and Weights of Current Passenger Car Models

SHIP WT. PASS. BODY STYLE. PRICE	SHIP WT. PASS. BODY STYLE. PRICE	SHIP WT. PASS. BODY STYLE. PRICE	SHIP WT. PASS. BODY STYLE. PRICE
<b>AUBURN "4-44"</b>	<b>CHRYSLER "50"</b>	<b>ELCAR "4-55"</b>	<b>SHIP WT. PASS. BODY STYLE. PRICE</b>
5-p Touring \$1,145	Coupe \$750	5-p Touring \$1,095	3355 2-4-p Roadster 2,045
5-p Roadster 1,145	Coach 780	4-p Coupe 2,345	3465 2-4-p Coupe 2,345
Coupe 1,175	Sedan 830	5-p Sedan 2,345	3545 5-p Sedan 2,345
5-p Sedan 1,195		5-p Berline 2,445	3580 5-p Berline 2,445
<b>"6-66"</b>		3-p Coupe 2,445	1,295 7-p Sedan 2,445
<b>2850 4-p Sport-Roadster 1,395</b>	<b>2575 5-p Touring \$1,075</b>	<b>3-p Sedan 1,295</b>	<b>7-p Sedan Lim. 2,595</b>
<b>2860 6-p Touring 1,395</b>	<b>2545 2-p Roadster 1,145</b>	<b>2779 5-p Sedan 1,395</b>	
<b>3-p Coupe 1,445</b>	<b>2-p Coupe 1,165</b>	<b>"6-65"</b>	
<b>3020 5-p Brougham 1,495</b>	<b>2780 5-p Coach 1,195</b>	<b>2400 5-p Touring DeL. \$1,095</b>	
<b>3070 5-p Sedan 1,695</b>	<b>2840 5-p Sedan 1,295</b>	<b>2475 5-p Sedan 995</b>	
<b>3070 5-p Wanderer 1,745</b>		<b>2575 5-p Sedan De Luxe 1,095</b>	
<b>"8-88"</b>	<b>"60"</b>		
<b>(129 in. W. B.)</b>	<b>2805 4-p Roadster \$1,525</b>	<b>"8-81"</b>	
<b>8180 4-p Sport-Roadster 1,695</b>	<b>2785 5-p Phaeton 1,395</b>	<b>2915 4-p Playboy Road. \$1,845</b>	
<b>3200 6-p Touring 1,695</b>	<b>2895 5-p Coach 1,395</b>	<b>3200 5-p Sedan 1,945</b>	
<b>3-p Coupe 1,745</b>	<b>5-p Sedan 1,545</b>	<b>3-p Victoria 1,945</b>	
<b>3380 6-p Brougham 1,795</b>	<b>3060 4-p Royal Coupe 1,695</b>	<b>Series "AA"</b>	
<b>3450 5-p Sedan 1,995</b>	<b>2935 5-p Brougham 1,745</b>	<b>3525 5-p Sedan \$3,470</b>	
<b>3450 5-p Wanderer 2,045</b>	<b>2995 5-p Royal Sedan 1,795</b>	<b>3625 4-p Victoria 3,470</b>	
	<b>3085 5-p Crown Sedan 1,895</b>		
<b>(146 in. W. B.)</b>	<b>"70"</b>		
<b>7-p Sedan 2,495</b>	<b>"80"</b>		
<b>BUICK</b>	<b>"80"</b>		
<b>2845 2-4-p "115"</b>	<b>(185½ in.)</b>	<b>ESSEX</b>	<b>KISSEL "55"</b>
<b>2955 5-p Touring 1,225</b>	<b>3775 5-p Phaeton 2,545</b>	<b>2260 5-p Touring \$765</b>	<b>(124 in. W. B.)</b>
<b>3020 2-4-p Coupe 1,195</b>	<b>3730 2-4-p Roadster 2,595</b>	<b>2500 5-p Coach 795</b>	<b>3050 5-p Phaeton \$1,585</b>
<b>3150 5-p 2-d. Sedan 1,195</b>	<b>4105 5-p Sedan 3,095</b>		<b>3660 7-p Touring 1,685</b>
<b>3110 4-p Coupe 1,275</b>	<b>4015 4-p Coupe 2,895</b>		<b>3065 2-p Speedster 1,795</b>
<b>3220 5-p 4-d. Sedan 1,295</b>	<b>(19½ in.)</b>		<b>3225 4-p Tourster 1,795</b>
<b>"120"</b>	<b>4225 7-p Sedan 3,195</b>		<b>3160 4-p Speedster 1,895</b>
<b>(120 in. W. B.)</b>	<b>4260 7-p Sedan Lim. 3,595</b>		<b>2-p Speedster (Enc.) 2,085</b>
	<b>*Overall length.</b>		<b>3050 5-p Phaeton 2,185</b>
<b>4-p Coupe 1,465</b>			<b>3300 5-p Brougham 1,695</b>
<b>3670 5-p 2-d. Sedan 1,395</b>			<b>3-p Spec. Bro'm 1,795</b>
<b>3765 5-p 4-d. Sedan 1,495</b>			<b>3440 5-p Bro'm Sedan 1,895</b>
<b>"128"</b>	<b>"V-8"</b>		<b>5-p Sedan 2,095</b>
<b>(128 in. W. B.)</b>	<b>4500 4-p Sp. Touring \$6,150</b>		<b>2-p Coupe Rdster 1,795</b>
<b>4-p Sp. Roadster \$1,495</b>	<b>4600 7-p Touring 6,650</b>		<b>3-p Sedan 2-p Speedster (Enc.) 2,185</b>
<b>3635 5-p Sp. Touring 1,525</b>	<b>4700 4-p Coupe 7,600</b>		<b>3275 4-p Speedster (Enc.) 2,085</b>
<b>3805 3-p Country Club 1,765</b>	<b>5000 6-p Limousine 8,100</b>		<b>3050 5-p Phaeton 1,585</b>
<b>5-p Coupe 1,850</b>			<b>3660 7-p Touring 1,685</b>
<b>3940 5-p Brough. Sedan 1,925</b>			<b>3225 4-p Speedster 1,795</b>
<b>4025 7-p Sedan 1,995</b>			<b>3160 4-p Tourster 1,795</b>
<b>CADILLAC</b>	<b>"6-70"</b>		<b>3160 4-p Speedster 1,895</b>
<b>"314" Standard Line</b>	<b>3750 4-p Roadster \$3,500</b>		<b>3050 5-p Phaeton 2,185</b>
<b>(132 in. W. B.)</b>	<b>3800 4-p Sp. Tourer 3,500</b>		<b>3300 5-p Brougham 1,695</b>
<b>4110 5-p Brougham \$2,995</b>	<b>3700 4-p Phaeton 3,500</b>		<b>3-p Spec. Bro'm 1,795</b>
<b>4040 2-p Coupe 3,100</b>	<b>4200 4-p Petite Coupe 4,500</b>		<b>3440 5-p Bro'm Sedan 1,895</b>
<b>4125 4-p Victoria 3,195</b>	<b>4500 4-p De Luxe Coupe 4,750</b>		<b>5-p Sedan 2,095</b>
<b>4210 5-p Sedan 3,250</b>	<b>4700 5-p Sedan 4,700</b>		<b>2-p Coupe Rdster 1,795</b>
<b>4315 7-p Sedan 3,350</b>	<b>4800 7-p Sedan 4,750</b>		<b>3-p Sedan 2-p Speedster (Enc.) 2,185</b>
<b>2-p Sport Coupe 3,500</b>			<b>3050 5-p Phaeton 1,585</b>
<b>4380 7-p Imperial 3,535</b>	<b>3150 5-p Touring 1,785</b>		<b>3660 7-p Touring 1,685</b>
<b>4400 7-p Sport Sedan 3,650</b>	<b>3100 2-p Roadster 1,985</b>		<b>3225 4-p Speedster 2,095</b>
<b>Custom Built</b>	<b>3200 4-p Sp. Touring 1,985</b>		<b>3160 4-p Tourster 2,095</b>
<b>(132 in.)</b>	<b>3500 5-p Sedan 2,445</b>		<b>3335 4-p Speedster 2,095</b>
<b>4065 2-p Roadster \$3,350</b>			<b>3360 4-p Speedster 2,295</b>
<b>(138 in. W. B.)</b>			<b>3425 2-p Speedster (Enc.) 2,485</b>
<b>4125 7-p Touring 3,450</b>	<b>DAVIS "92-27"</b>		<b>3500 4-p Speedster (Enc.) 2,485</b>
<b>4109 5-p Phaeton 3,450</b>	<b>2915 5-p Legion. Tour. 1,495</b>		<b>3220 5-p Phaeton \$1,985</b>
<b>3-p. Sp. Phaeton 3,975</b>	<b>3000 5-p Sedan 1,595</b>		<b>3220 7-p Touring 2,085</b>
<b>Conv't Coupe 3,450</b>	<b>3060 6-p Imperial Sedan 1,795</b>		<b>3630 7-p Coupe 2,085</b>
<b>4200 5-p Coupe 3,855</b>			<b>3275 2-p Speedster 2,195</b>
<b>4300 5-p Sedan 3,995</b>	<b>"93-27"</b>		<b>1972 5-p Tudor Sedan 495</b>
<b>4400 7-p Suburban 4,125</b>	<b>2325 5-p Touring \$1,285</b>		<b>2004 5-p Fordor Sedan 545</b>
<b>4450 7-p Imperial 4,350</b>	<b>2500 5-p Sedan 1,285</b>		<b>3335 4-p Tourster 2,195</b>
<b>DAVIES</b>	<b>2450 3-p Coupe 1,285</b>		<b>3360 4-p Speedster 2,295</b>
<b>4065 2-p Roadster \$3,350</b>			<b>3425 2-p Speedster (Enc.) 2,485</b>
<b>(138 in. W. B.)</b>			<b>3500 4-p Speedster (Enc.) 2,485</b>
<b>4125 7-p Touring 3,450</b>	<b>2915 5-p Legion. Tour. 1,495</b>		<b>3220 5-p Phaeton \$1,985</b>
<b>4109 5-p Phaeton 3,450</b>	<b>3000 5-p Sedan 1,595</b>		<b>3220 7-p Touring 2,085</b>
<b>3-p. Sp. Phaeton 3,975</b>	<b>3060 6-p Imperial Sedan 1,795</b>		<b>3630 7-p Coupe 2,085</b>
<b>Conv't Coupe 3,450</b>			<b>3275 2-p Speedster 2,195</b>
<b>4200 5-p Coupe 3,855</b>	<b>"93-27"</b>		<b>1972 5-p Tudor Sedan 495</b>
<b>4300 5-p Sedan 3,995</b>	<b>3160 5-p Cabriolet 2,095</b>		<b>2004 5-p Fordor Sedan 545</b>
<b>4400 7-p Suburban 4,125</b>	<b>3640 7-p Sedan (135 in. W. B.) 2,695</b>		<b>3335 4-p Tourster 2,195</b>
<b>4450 7-p Imperial 4,350</b>	<b>3640 7-p Berline Sedan 2,895</b>		<b>3360 4-p Speedster 2,295</b>
<b>CASE</b>	<b>5-p Town Car.</b>		<b>3425 2-p Speedster (Enc.) 2,485</b>
<b>J. I. C.</b>			<b>3500 4-p Speedster (Enc.) 2,485</b>
<b>DIANA "St. 8"</b>			<b>3500 4-p Speedster (Enc.) 2,485</b>
<b>2260 3-p Roadster \$1,840</b>	<b>2995 5-p Roadster \$1,795</b>		<b>3220 5-p Phaeton \$1,985</b>
<b>3290 6-p Touring 1,885</b>	<b>2995 6-p Palm Beach Roadster 1,995</b>		<b>3220 7-p Touring 2,085</b>
<b>3470 5-p Sp. Touring 2,160</b>	<b>3170 5-p Del. Brougham 1,995</b>		<b>3630 7-p Coupe 2,085</b>
<b>3640 6-p Sedan 2,590</b>	<b>3275 5-p De Luxe Sedan 2,195</b>		<b>3275 2-p Speedster 2,195</b>
<b>3660 5-p Brougham 2,590</b>	<b>3160 5-p Cabriolet 2,095</b>		<b>3630 5-p Sedan 2,295</b>
<b>"Y"</b>	<b>3640 7-p Sedan (135 in. W. B.) 2,695</b>		<b>3275 5-p Spec. Bro'm Sedan 2,295</b>
<b>3950 7-p Touring 2,225</b>			<b>3275 5-p Sedan 2,295</b>
<b>4320 7-p Sedan 2,975</b>			<b>3275 5-p Spec. Bro'm Sedan 2,295</b>
<b>CHANDLER BIG SIX</b>			<b>3275 5-p Sedan 2,295</b>
<b>2-4-p Roadster \$1,695</b>	<b>2448 2-p Roadster \$795</b>		<b>3275 5-p Limousine 5,300</b>
<b>5-p Sport Touring 1,545</b>	<b>2538 2-p Special Roadster 845</b>		
<b>7-p Touring 1,645</b>	<b>2567 5-p Touring 795</b>		
<b>5-p 20th C'y Sedan 1,495</b>	<b>2642 5-p Spec. Touring 845</b>		
<b>5-p Met. Sedan 1,595</b>	<b>2497 2-4-p Sport Roadster 945</b>		
<b>4-p Coupe 1,675</b>	<b>2617 4-p Sport Touring 880</b>		
<b>7-p Sedan 1,795</b>	<b>2589 2-p Coupe 845</b>		
<b>Standard Six</b>	<b>2632 2-p Spec. Coupe 895</b>		
<b>(109 in. W. B.)</b>	<b>2811 5-p Sedan 895</b>		
<b>2225 5-p Touring \$945</b>	<b>2883 6-p Spec. Sed. 945</b>		
<b>2565 5-p DeLuxe Tour. 1,105</b>	<b>2920 5-p DeL. Sedan 1,075</b>		
<b>2-4-p Sport R'dster 1,135</b>			
<b>2580 5-p Sedan 995</b>			
<b>2520 2-p Coupe 1,035</b>			
<b>5-p De Luxe Sedan 1,095</b>			
<b>2-p De Luxe Coupe 1,125</b>			
<b>Special Six</b>			
<b>(116 in. W. B.)</b>			
<b>2800 5-p Touring \$1,145</b>	<b>3920 2-p Roadster ↑</b>		
<b>2975 5-p Sport Touring 1,295</b>	<b>3970 4-p Roadster ↑</b>		
<b>2950 2-p Coupe 1,195</b>	<b>3700 5-p Phaeton ↑</b>		
<b>3145 5-p De Luxe Coupe 1,285</b>	<b>3980 4-p Sp. Phaeton ↑</b>		
<b>CHEVROLET "X"</b>	<b>4115 5-p Sedan ↑</b>		
<b>2800 5-p Sedan 1,295</b>	<b>4500 7-p Sedan ↑</b>		
<b>1780 2-p Roadster \$510</b>			
<b>1875 5-p Touring 510</b>			
<b>2030 2-p Utility Coupe 645</b>			
<b>2130 5-p Coach 645</b>	<b>3300 2-p Roadster \$2,600</b>		
<b>2215 5-p Sedan 735</b>	<b>3550 5-p Touring 2,600</b>		
<b>2215 5-p Landau Sedan 765</b>	<b>3800 7-p Touring 2,750</b>		
<b>2800 5-p Sedan 1,295</b>	<b>3550 6-p Touring Sedan 3,400</b>		
<b>1780 2-p Roadster \$510</b>			
<b>1875 5-p Touring 510</b>			
<b>2030 2-p Utility Coupe 645</b>			
<b>2130 5-p Coach 645</b>			
<b>2215 5-p Sedan 735</b>			
<b>2215 5-p Landau Sedan 765</b>			
<b>CHEVROLET "X"</b>			
<b>1780 2-p Roadster \$510</b>			
<b>1875 5-p Touring 510</b>			
<b>2030 2-p Utility Coupe 645</b>			
<b>2130 5-p Coach 645</b>			
<b>2215 5-p Sedan 735</b>			
<b>2215 5-p Landau Sedan 765</b>			
<b>CHEVROLET "X"</b>			
<b>1780 2-p Roadster \$510</b>			
<b>1875 5-p Touring 510</b>			
<b>2030 2-p Utility Coupe 645</b>			
<b>2130 5-p Coach 645</b>			
<b>2215 5-p Sedan 735</b>			
<b>2215 5-p Landau Sedan 765</b>			
<b>CHEVROLET "X"</b>			
<b>1780 2-p Roadster \$510</b>			
<b>1875 5-p Touring 510</b>			
<b>2030 2-p Utility Coupe 645</b>			
<b>2130 5-p Coach 645</b>			
<b>2215 5-p Sedan 735</b>			
<b>2215 5-p Landau Sedan 765</b>			
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<b>1780 2-p Roadster \$510</b>			
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<b>2030 2-p Utility Coupe 645</b>			
<b>2130 5-p Coach 645</b>			
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<b>CHEVROLET "X"</b>			
<b>1780 2-p Roadster \$510</b>			
<b>1875 5-p Touring 510</b>			
<b>2030 2-p Utility Coupe 645</b>			
<b>2130 5-p Coach 645</b>			
<b>2215 5-p Sedan 735</b>			
<b>2215 5-p Landau Sedan 765</b>			
<b>CHEVROLET "X"</b>			
<b>1780 2-p Roadster \$510</b>			
<b>1875 5-p Touring 510</b>			
<b>2030 2-p Utility Coupe 645</b>			
<b>2130 5-p Coach 645</b>			
<b>2215 5-p Sedan 735</b>			
<b>2215 5-p Landau Sedan 765</b>			
<b>CHEVROLET "X"</b>			
<b>1780 2-p Roadster \$510</b>			
<b>1875 5-p Touring 510</b>			
<b>2030 2-p Utility Coupe 645</b>			
<b>2130 5-p Coach 645</b>			
<b>2215 5-p Sedan 735</b>			
<b>2215 5-p Landau Sedan 765</b>			
<b>CHEVROLET "X"</b>			
<b>1780 2-p Roadster \$510</b>			
<b>1875 5-p Touring 510</b>			
<b>2030 2-p Utility Coupe 645</b>			
<b>2130 5-p Coach 645</b>			
<b>2215 5-p Sedan 735</b>			
<b>2215 5-p Landau Sedan 765</b>			
<b>CHEVROLET "X"</b>			
<b>1780 2-p Roadster \$510</b>			
<b>1875 5-p Touring 510</b>			
<b>2030 2-p Utility Coupe 645</b>			
<b>2130 5-p Coach 645</b>			
<b>2215 5-p Sedan 735</b>			
<b>2215 5-p Landau Sedan 765</b>			
<b>CHEVROLET "X"</b>			
<b>1780 2-p Roadster \$510</b>			
<b>1875 5-p Touring 510</b>			
<b>2030 2-p Utility Coupe 645</b>			
<b>2130 5-p Coach 645</b>			
<b>2215 5-p Sedan 735</b>			
<b>2215 5-p Landau Sedan 765</b>			
<b>CHEVROLET "X"</b>			
<b>1780 2-p Roadster \$510</b>			
<b>1875 5-p Touring 510</b>			
<b>2030 2-p Utility Coupe 645</b>			
<b>2130 5-p Coach 645</b>			
<b>2215 5-p Sedan 735</b>			
<b>2215 5-p Landau Sedan 765</b>			
<b>CHEVROLET "X"</b>			
<b>1780 2-p Roadster \$510</b>			
<b>1875 5-p Touring 510</b>			
<b>2030 2-p Utility Coupe 645</b>			
<b>2130 5-p Coach 645</b>			
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<b>CHEVROLET "X"</b>			
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<b>1875 5-p Touring 510</b>			
<b>2030 2-p Utility Coupe 645</b>			
<b>2130 5-p Coach 645</b>			
<b>2215 5-p Sedan 735</b>			
<b>2215 5-p Landau Sedan 765</b>			
<b>CHEVROLET "X"</b>			
<b>1780 2-p Roadster \$510</b>			
<b>1875 5-p Touring 510</b>			
<b>2030 2-p Utility Coupe 645</b>			
<b>2130 5-p Coach 645</b>			
<b>2215 5-p Sedan 735</b>			
<b>2215 5-p Landau Sedan 765</b>			
<b>CHEVROLET "X"</b>			
<b>1780 2-p Roadster \$510</b>			
<b>1875 5-p Touring 510</b>			
<b>2030 2-p Utility Coupe 645</b>			
<b>2130 5-p Coach 645</b>			
<b>2215 5-p Sedan 735</b>			
<b>2215 5-p Landau Sedan 765</b>			
<b>CHEVROLET "X"</b>			
<b>1780 2-p Roadster \$510</b>			

<sup>†</sup>Manufacturers do not quote list prices.

## Prices and Weights of Current Passenger Car Models

## Mechanical Specifications of Current Passenger Car Models

This list contains some dictated on a national basis

- 1 -

# Permanent Stopping Efficiency With Lockheeds'

The fact that perfectly adjusted four wheel brakes stop a car so much more quickly than two wheel brakes loses its major significance—unless the stop is made safely.

Safety in stopping means permanent equalization of the brakes—and permanent equalization is the great outstanding feature which accounts for the definite superiority of Lockheed Hydraulic Four Wheel Brakes.

Permanent equalization means that the driver of a Lockheed equipped car is

HYDRAULIC BRAKE COMPANY, DETROIT, MICHIGAN, U. S. A.

not required to make adjustments, and may, with confidence, in emergencies exert full braking power without fear of skidding, or of other and perhaps more serious trouble.

The pressure exerted is transmitted to all four wheels *equally*—not to only one side of the car, or to the front wheels, or to the rear wheels.

Since they have come into common use, Lockheed Hydraulics have undoubtedly saved thousands of lives, prevented many painful accidents, and much property damage.

*The Answer*

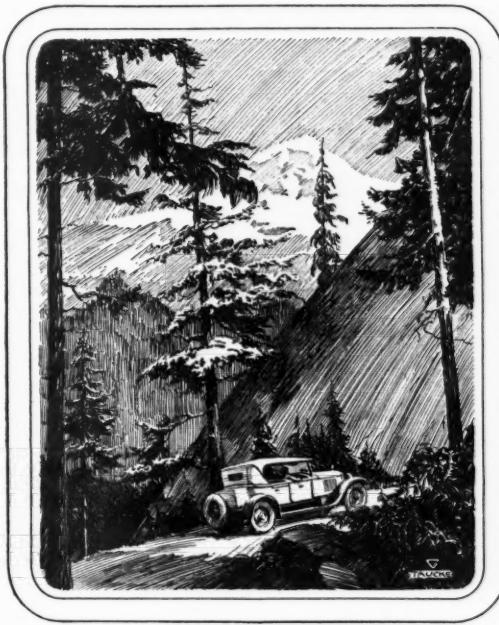
## LOCKHEED HYDRAULIC Four BRAKES Wheel



# Mechanical Specifications of Current Passenger Car Models—Continued

(This list comprises cars distributed on a national basis)

MAKE AND MODEL	WHEEL BASE (inches)	TIRE SIZE	DECIMALS-BILLIONS	NUMBER OF CYL.	BORE AND STROKE	ENGINE	ELECTRICAL SYSTEM		REAR AXLE		BRAKES		TYPE AND MAKE		TYPE AND LUBRICATION	
							GENERATOR	SETR	GEAR RATIO	GEAR-SET-MAKE	GEAR RATIO	GEAR-SET-MAKE	GEAR RATIO	GEAR-SET-MAKE	GEAR RATIO	GEAR-SET-MAKE
Marmon.....74	136	347-30	Own...74	6-34x5	33.8	340 1	N	N	1/2 Tim.	4.27 E-F-E-T	H	Ross	0-45..	Bowen	A-K—Atwater Kent	
McFarlan.....SV	127	326-20	Wb...Y	6-34x5	27.3	268 1	Ch.	Ch.	1/2 Tim.	5.11 E-F-E-T	H	Ross	0-58..	Ow..	A-L—Auto-Lite	
McFarlan.....St. 8	141	326-20	Lyc...4H-6x5	6-34x5	33.8	287 1	Ch.	Ch.	1/2 Tim.	3.53 E-F-I-R	H	Ross	0-58..	Ow..	Al—Adams	
McFarlan.....TV	141	326-20	Own...TV 6-4x6	6-34x5	48.6	573 T	Ch.	Ch.	1/2 Tim.	5.08 E-F-I-R	H	Ross	0-58..	Ow..	Bowen Alm—Almetie	
McFarlan.....London	128	326-20	Con...8H-6x5	6-34x5	27.3	242 L	Ch.	Ch.	1/2 Tim.	4.30 E-F-E-T	H	Ross	0-58..	Ow..	B&B—Borg & Beck	
Moon.....Series A	113	305-25	Con...7H-6x5	6-34x5	23.4	196 L	Ch.	Ch.	1/2 Tim.	4.34 E-F-E-T	H	Ross	0-54..	Ow..	B-L—Brown-Lipe	
Moon.....Series B	110	294-75	Con...Spec. 6-27x4	6-34x5	19.8	185 L	Ch.	Ch.	1/2 Tim.	4.34 E-F-E-T	H	Ross	0-54..	Ow..	B-B—Bussic cups	
Nash.....Light Six	108	304-75	Own...121-130	6-34x5	28.4	170 L	Ch.	Ch.	1/2 Tim.	4.30 E-F-E-T	H	Ross	0-54..	Ow..	C-A—Car-Carter	
Nash.....Advanced 121-127	126	336-00	Own...261-63x5	6-34x5	28.4	279 L	He.	He.	1/2 Tim.	4.30 E-F-E-T	H	M. Own..	0-54..	Ow..	C-C—Cle—Cleveland	
Nash.....Special	112	305-25	Own...231-63x5	6-34x5	25.3	224 L	He.	He.	1/2 Tim.	4.30 E-F-E-T	H	M. Own..	0-54..	Ow..	Cli—Climax	
Nash.....Oakland	113	305-25	Own...OS 6-27x3	6-34x5	19.8	224 L	He.	He.	1/2 Tim.	4.30 E-F-E-T	H	M. Own..	0-54..	Ow..	Co—Continental	
Oldsmobile.....66	116	326-20	Own...100-6x5	6-34x5	19.8	185 L	Ch.	Ch.	1/2 Tim.	4.30 E-F-E-T	H	M. Own..	0-54..	Ow..	C-G—Continental	
Oldsmobile.....30E	110	326-20	Own...100-4	6-34x5	19.8	185 L	Ch.	Ch.	1/2 Tim.	4.30 E-F-E-T	H	M. Own..	0-54..	Ow..	C-H—Continental	
Overland.....95	112	326-20	Own...274-40	6-34x5	15.6	134 L	Ch.	Ch.	1/2 Tim.	4.30 E-F-E-T	H	M. Own..	0-54..	Ow..	C-J—Continental	
Packard.....126-133	126	326-75	Own...294-96	6-34x5	16.3	142 L	He.	He.	1/2 Tim.	4.30 E-F-E-T	H	M. Own..	0-54..	Ow..	C-L—Continental	
Pierce Arrow.....30	130	326-75	Own...326-77	6-34x5	21.6	170 L	He.	He.	1/2 Tim.	4.30 E-F-E-T	H	M. Own..	0-54..	Ow..	C-M—Continental	
Pontiac.....T-6	110	326-75	Own...326-77	6-34x5	21.6	170 L	He.	He.	1/2 Tim.	4.30 E-F-E-T	H	M. Own..	0-54..	Ow..	C-N—Continental	
Reo.....T-16	120	326-75	Own...326-77	6-34x5	21.6	170 L	He.	He.	1/2 Tim.	4.30 E-F-E-T	H	M. Own..	0-54..	Ow..	C-O—Continental	
Revere.....M	131	326-75	Mon...326-75	6-34x5	30.6	361 H	Ch.	Al.	1/2 Tim.	4.30 E-F-E-T	H	M. Own..	0-54..	Ow..	C-P—Continental	
Revere.....M-25	131	326-75	Con...326-75	6-34x5	33.8	331 L	He.	Ch.	1/2 Tim.	4.30 E-F-E-T	H	M. Own..	0-54..	Ow..	C-S—Continental	
Rickenbacker.....E	117	315-25	Own...326-77	6-34x5	22.3	236 L	Ch.	Ch.	1/2 Tim.	4.30 E-F-E-T	H	M. Own..	0-54..	Ow..	C-T—Continental	
Rickenbacker.....B-8	122	315-25	Own...326-77	6-34x5	22.3	236 L	Ch.	Ch.	1/2 Tim.	4.30 E-F-E-T	H	M. Own..	0-54..	Ow..	C-U—Continental	
Roamer.....6-54	128	326-77	Own...326-77	6-34x5	22.3	236 L	Ch.	Ch.	1/2 Tim.	4.30 E-F-E-T	H	M. Own..	0-54..	Ow..	C-V—Continental	
Roamer.....4-75	128	326-77	Own...326-77	6-34x5	22.3	236 L	Ch.	Ch.	1/2 Tim.	4.30 E-F-E-T	H	M. Own..	0-54..	Ow..	C-W—Continental	
Roamer.....6-50	115	315-25	Con...326-77	6-34x5	22.3	236 L	Ch.	Ch.	1/2 Tim.	4.30 E-F-E-T	H	M. Own..	0-54..	Ow..	C-X—Continental	
Roamer.....8-88	138	326-75	Own...326-75	6-34x5	22.3	236 L	Ch.	Ch.	1/2 Tim.	4.30 E-F-E-T	H	M. Own..	0-54..	Ow..	C-Y—Continental	
Roamer.....8-80	126	326-75	Own...326-75	6-34x5	22.3	236 L	Ch.	Ch.	1/2 Tim.	4.30 E-F-E-T	H	M. Own..	0-54..	Ow..	C-Z—Continental	
Rolls Royce.....Silver Ghost	143	326-75	Own...326-75	6-34x5	34.6	463 L	He.	Al.	1/2 Tim.	4.30 E-F-E-T	H	M. Own..	0-54..	Ow..	C-A—Continental	
Stanley.....Star	122	326-75	Own...326-77	6-34x5	33.8	331 L	He.	Ch.	1/2 Tim.	4.30 E-F-E-T	H	M. Own..	0-54..	Ow..	C-B—Continental	
Star....."Std. 6"	103	303-25	Own...326-77	6-34x5	22.3	236 L	Ch.	Ch.	1/2 Tim.	4.30 E-F-E-T	H	M. Own..	0-54..	Ow..	C-C—Continental	
Stearns Knight.....B-8	121	326-75	Own...326-75	6-34x5	33.8	331 L	He.	Ch.	1/2 Tim.	4.30 E-F-E-T	H	M. Own..	0-54..	Ow..	C-D—Continental	
Stearns Knight.....T-5	121	326-75	Own...326-75	6-34x5	33.8	331 L	He.	Ch.	1/2 Tim.	4.30 E-F-E-T	H	M. Own..	0-54..	Ow..	C-E—Continental	
Stearns Knight.....T-11	121	326-75	Own...326-75	6-34x5	33.8	331 L	He.	Ch.	1/2 Tim.	4.30 E-F-E-T	H	M. Own..	0-54..	Ow..	C-F—Continental	
Studebaker.....Big 6	120	326-75	Own...326-75	6-34x5	36.0	353 L	He.	Ch.	1/2 Tim.	4.30 E-F-E-T	H	M. Own..	0-54..	Ow..	C-G—Continental	
Studebaker....."Std. 6"	107	303-40	Own...326-75	6-34x5	18.2	169 L	Ch.	Ch.	1/2 Tim.	4.30 E-F-E-T	H	M. Own..	0-54..	Ow..	C-H—Continental	
Studebaker....."Std. 6"	107	303-40	Con...326-75	6-34x5	18.2	169 L	Ch.	Ch.	1/2 Tim.	4.30 E-F-E-T	H	M. Own..	0-54..	Ow..	C-I—Continental	
Studebaker.....Big 6	120	326-75	Own...326-75	6-34x5	22.5	249 X	Ch.	Ch.	1/2 Tim.	4.30 E-F-E-T	H	M. Own..	0-54..	Ow..	C-J—Continental	
Studebaker....."Std. 6"	107	303-40	Con...326-75	6-34x5	22.5	249 X	Ch.	Ch.	1/2 Tim.	4.30 E-F-E-T	H	M. Own..	0-54..	Ow..	C-K—Continental	
Studebaker.....Big 6	120	326-75	Own...326-75	6-34x5	22.5	249 X	Ch.	Ch.	1/2 Tim.	4.30 E-F-E-T	H	M. Own..	0-54..	Ow..	C-L—Continental	
Studebaker....."Std. 6"	107	303-40	Con...326-75	6-34x5	22.5	249 X	Ch.	Ch.	1/2 Tim.	4.30 E-F-E-T	H	M. Own..	0-54..	Ow..	C-M—Continental	
Studebaker....."Std. 6"	107	303-40	Con...326-75	6-34x5	22.5	249 X	Ch.	Ch.	1/2 Tim.	4.30 E-F-E-T	H	M. Own..	0-54..	Ow..	C-N—Continental	
Studebaker....."Std. 6"	107	303-40	Con...326-75	6-34x5	22.5	249 X	Ch.	Ch.	1/2 Tim.	4.30 E-F-E-T	H	M. Own..	0-54..	Ow..	C-O—Continental	
Studebaker....."Std. 6"	107	303-40	Con...326-75	6-34x5	22.5	249 X	Ch.	Ch.	1/2 Tim.	4.30 E-F-E-T	H	M. Own..	0-54..	Ow..	C-P—Continental	
Studebaker....."Std. 6"	107	303-40	Con...326-75	6-34x5	22.5	249 X	Ch.	Ch.	1/2 Tim.	4.30 E-F-E-T	H	M. Own..	0-54..	Ow..	C-Q—Continental	
Studebaker....."Std. 6"	107	303-40	Con...326-75	6-34x5	22.5	249 X	Ch.	Ch.	1/2 Tim.	4.30 E-F-E-T	H	M. Own..	0-54..	Ow..	C-R—Continental	
Studebaker....."Std. 6"	107	303-40	Con...326-75	6-34x5	22.5	249 X	Ch.	Ch.	1/2 Tim.	4.30 E-F-E-T	H	M. Own..	0-54..	Ow..	C-S—Continental	
Studebaker....."Std. 6"	107	303-40	Con...326-75	6-34x5	22.5	249 X	Ch.	Ch.	1/2 Tim.	4.30 E-F-E-T	H	M. Own..	0-54..	Ow..	C-T—Continental	
Studebaker....."Std. 6"	107	303-40	Con...326-75	6-34x5	22.5	249 X	Ch.	Ch.	1/2 Tim.	4.30 E-F-E-T	H	M. Own..	0-54..	Ow..	C-U—Continental	
Studebaker....."Std. 6"	107	303-40	Con...326-75	6-34x5	22.5	249 X	Ch.	Ch.	1/2 Tim.	4.30 E-F-E-T	H	M. Own..	0-54..	Ow..	C-V—Continental	
Studebaker....."Std. 6"	107	303-40	Con...326-75	6-34x5	22.5	249 X	Ch.	Ch.	1/2 Tim.	4.30 E-F-E-T	H	M. Own..	0-54..	Ow..	C-W—Continental	
Studebaker....."Std. 6"	107	303-40	Con...326-75	6-34x5	22.5	249 X	Ch.	Ch.	1/2 Tim.	4.30 E-F-E-T	H	M. Own..	0-54..	Ow..	C-X—Continental	
Studebaker....."Std. 6"	107	303-40	Con...326-75	6-34x5	22.5	249 X	Ch.	Ch.	1/2 Tim.	4.30 E-F-E-T	H	M. Own..	0-54..	Ow..	C-Y—Continental	
Studebaker....."Std. 6"	107	303-40	Con...326-75	6-34x5	22.5	249 X	Ch.	Ch.	1/2 Tim.	4.30 E-F-E-T	H	M. Own..	0-54..	Ow..	C-Z—Continental	
Studebaker....."Std. 6"	107	303-40	Con...326-75	6-34x5	22.5	249 X	Ch.	Ch.	1/2 Tim.	4.30 E-F-E-T	H	M. Own..	0-54..	Ow..	C-A—Continental	
Studebaker....."Std. 6"	107	303-40	Con...326-75	6-34x5	22.5	249 X	Ch.	Ch.	1/2 Tim.	4.30 E-F-E-T	H	M. Own..	0-54..	Ow..	C-B—Continental	
Studebaker....."Std. 6"	107	303-40	Con...326-75	6-34x5	22.5	249 X	Ch.	Ch.	1/2 Tim.	4.30 E-F-E-T	H	M. Own..	0-54..	Ow..	C-C—Continental	
Studebaker....."Std. 6"	107	303-40	Con...326-75	6-34x5	22.5	249 X	Ch.	Ch.	1/2 Tim.	4.30 E-F-E-T	H	M. Own..	0-54..	Ow..	C-D—Continental	
Studebaker....."Std. 6"	107	303-40	Con...326-75	6-34x5	22.5	249 X	Ch.	Ch.	1/2 Tim.	4.30 E-F-E-T	H	M. Own..	0-54..	Ow..	C-E—Continental	
Studebaker....."Std. 6"	107	303-40	Con...326-75	6-34x5	22.5	249 X	Ch.	Ch.	1/2 Tim.	4.30 E-F-E-T	H	M. Own..	0-54..	Ow..	C-F—Continental	
Studebaker....."Std. 6"	107	303-40	Con...326-75	6-34x5	22.5	249 X	Ch.	Ch.	1/2 Tim.	4.30 E-F-E-T	H	M. Own..	0-54..	Ow..	C-G—Continental	
Studebaker....."Std. 6"	107	303-40	Con...326-75	6-34x5	22.5	249 X	Ch.	Ch.	1/2 Tim.	4.30 E-F-E-T	H	M. Own..	0-54..	Ow..	C-H—Continental	
Studebaker....."Std. 6"	107	303-40	Con...326-75	6-34x5	22.5	249 X	Ch.	Ch.	1/2 Tim.	4.30 E-F-E-T	H	M. Own..	0-54..	Ow..	C-I—Continental	
Studebaker....."Std. 6"	107	303-40	Con...326-75	6-34x5	22.5	249 X	Ch.	Ch.	1/2 Tim.	4.30 E-F-E-T	H	M. Own..	0-54..	Ow..	C-J—Continental	
Studebaker....."Std. 6"	107	303-40	Con...326-75	6-34x5	22.5	249 X	Ch.	Ch.	1/2 Tim.	4.30 E-F-E-T	H	M. Own..	0-54..	Ow..	C-K—Continental	
Studebaker....."Std.																



Why the deliberate choice  
of the nation centers on  
the new, 90-degree,  
eight-cylinder  
*Cadillac*

You have only to look beneath the surface to see what is happening in the motor car industry.

Nearly everyone owns a motor car now, and the experience of years is crystallizing into a more intelligent choice which concentrates of course on cars of known quality and firmly established reputation.

*500 Color Combinations + 50 Body Styles and Types* In all its quarter century of success and prestige, in all its long list of engineering achievements, Cadillac has never scored a more brilliant triumph than in its recent presentation of 50 body styles and types, and 500 color and upholstery combinations.

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Cadillac's prestige, old as the industry itself, culminating in the unprecedented success of the new, 90-degree Cadillac, is now carried to the ultimate of exclusiveness and distinction, setting Cadillac definitely apart from competition.

Priced from \$2995 upward, f. o. b. Detroit.

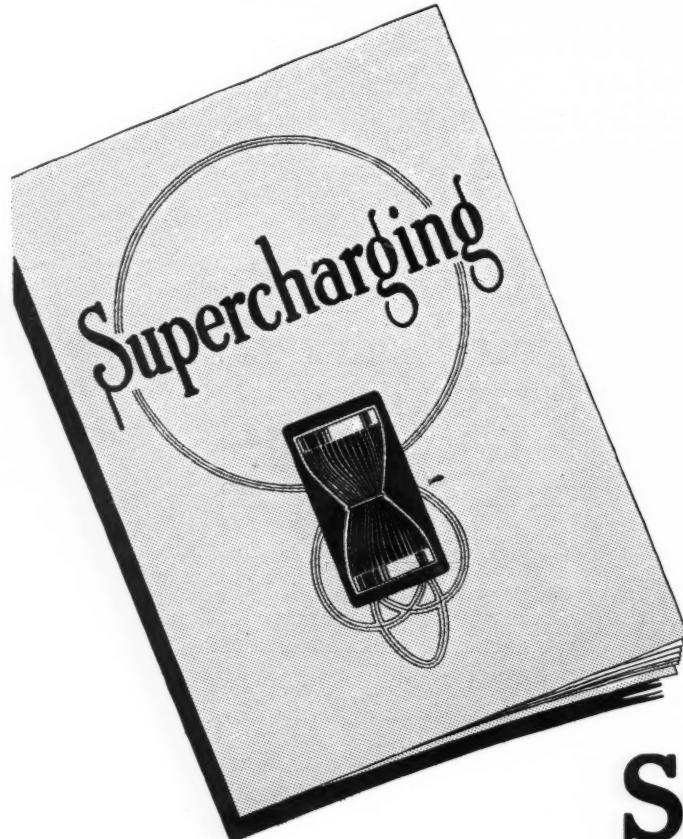
NEW 99 PERCENT

# CADILLAC

DIVISION OF GENERAL MOTORS CORPORATION



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Tells  
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About

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Here is the information on supercharging hundreds of dealers have written for in the past few weeks, gathered together under one cover and clearly presented for your convenience. Write for your copy of the booklet "Supercharging." It's free—and it tells you what you want to know.

### The "BAT" Suction Super-Charger "Functions When the Engine Breathes"

It balances the combustible charge in the cylinders, which is equally as important to the smooth operation of the engine, as the proper balancing of the crank shaft, clutch and all other moving parts. Besides the "BAT" is a marvel in design and fine workmanship, and can be installed in from 10 to 20 minutes.

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# INDIA TIRES Sell to Big Industries



The more tires they use, the more you can save them by selling INDIAS.

Whether it is two tires per year or two hundred—on heavy delivery trucks or salesmen's cars—the superior quality of material and method of construction of INDIA Tires assure corporation accounts the utmost uninterrupted mileage they can buy.

INDIA helps its dealers get this conspicuous business in their protected territories.

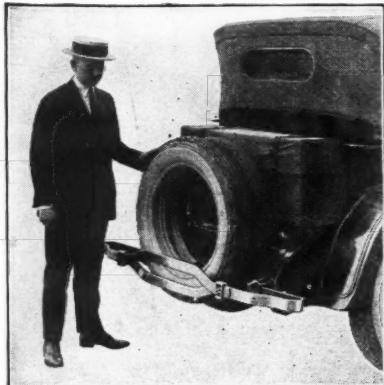
# INDIA TIRES



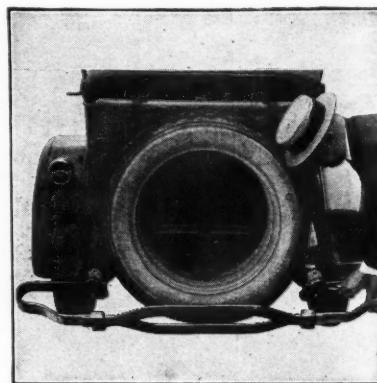
INDIA TIRE & RUBBER CO., AKRON, OHIO.

1 - 2 - 3  
*as simple as*  
 A - B - C

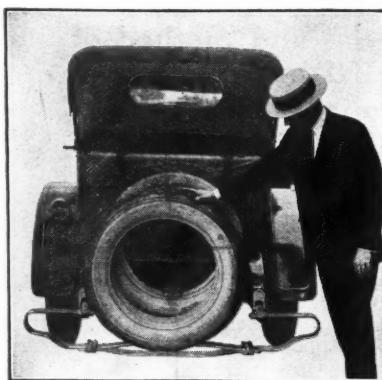
—that's the Biflex  
 Hingedrop Bracket



**1** *Simply loosen and remove  
 the top bolt on each side.*



**2** *Swing the bumper downward  
 until it is stopped automatically by strong lugs.*



**3** *And remove the tire—using  
 the bumper as a step rest.*

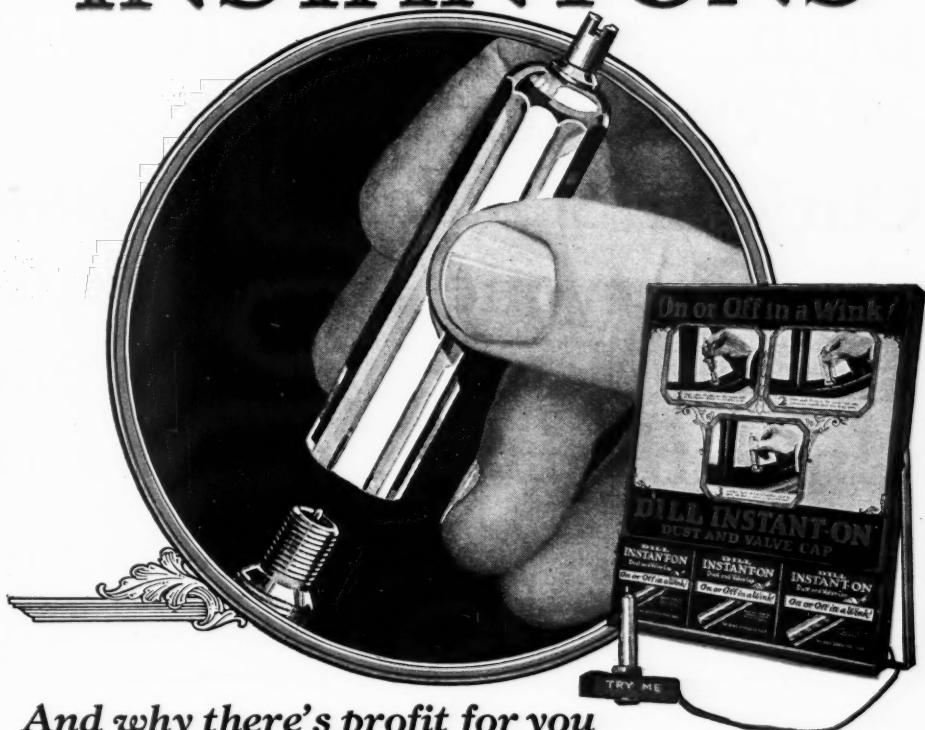
**E**ASY, isn't it? The awkward, dirty job of removing tires is abolished. Only a few minutes time required. The Biflex Hingedrop Bracket is the final triumph in rear bumper protection. It gives you *full* rear protection. It protects your tire. It protects your gas tank. It protects the *whole* rear of your car. And it gives you utmost protection.

*Biflex is standard equipment on many of the best motor cars. If not on the car you sell, there is a Biflex jobber near you—he can supply you. Insist upon utmost safety for your customers—Biflex front, rear or "Reargards."*

82 THE BIFLEX CORPORATION, WAUKEGAN, ILLINOIS

**Biflex**  
 Cushion Bumper

# 6 reasons why 31 leading car makers use INSTANT-ONS



*And why there's profit for you in handling these combined dust-and-valve caps*

- 1 One cap instead of 2—no tiny cap to lose.
- 2 Convenience—a turn or two to catch the Instant-On on the valve stem—a push—a few more turns until tight, and it's on. Reverse the action, and it's off.
- 3 Prevents valve leaks—patented construction actually seals the tip of valve stem and prevents loss of air that cuts tire mileage.
- 4 Can't freeze or rust to the rim nut—pliers never needed. Instant-Ons always come off easily by hand.
- 5 Easier inflation—better care of tires, longer tire life and more mileage.
- 6 National advertising—full pages in the Saturday Evening Post are making motorists well acquainted with Instant-On advantages.

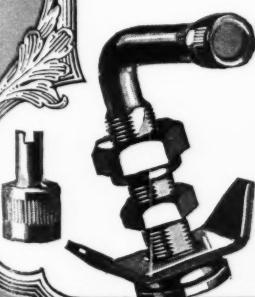
THE DILL MANUFACTURING CO. • Cleveland, Ohio

*Manufactured in Canada by The Dill Mfg. Co., Canada, Ltd., Toronto*

*Any branch of the leading tire manufacturers or your jobber will supply you with one of the handy metal display stands lithographed in beautiful colors, shown above. Price to you \$8.00—complete with 1 dozen boxes of Instant-Ons. Each box contains a set of 5 and retails for \$1.00. Write us direct if your jobber cannot supply you.*

# DILL

Standard Tire Valves and Valve Parts



# The New C Opens the Entire Motor Car M

**Fourth Step in Walter P. Chrysler's Plan to Furnish a Car of Chrysler Standardized Quality for Everyone Gives Dealer Most Complete Sales Possibilities Industry Has Ever Known**

The new Chrysler "50" is now presented as the fourth and latest step in Walter P. Chrysler's well-developed plan to furnish a car of Chrysler Standardized Quality for everyone.

Finer looking, full-sized, superior in comfort and handling ease to any car near its price, and bearing the name—Chrysler—which the public has endorsed as standing for the finest in motoring performance and value—the Chrysler "50" takes rank as the industry's finest of fours.

The Chrysler "50" rounds out the

sound program conceived by Mr. Chrysler three years ago—a program to build under one name, in one group of plants, and to merchandise through one unified dealer organization, four complete lines of cars of Standardized Quality—ranging from \$750 to \$3595—which will meet the demands of all buyers in the four great quality markets.

At its phenomenally low prices the Chrysler "50" throws open to all Chrysler dealers on a QUALITY instead of on a PRICE basis a broad

BUILT AS ONLY CHRYSLER BUILDS

# CHRYSLER "

# CHRYSLER "50"

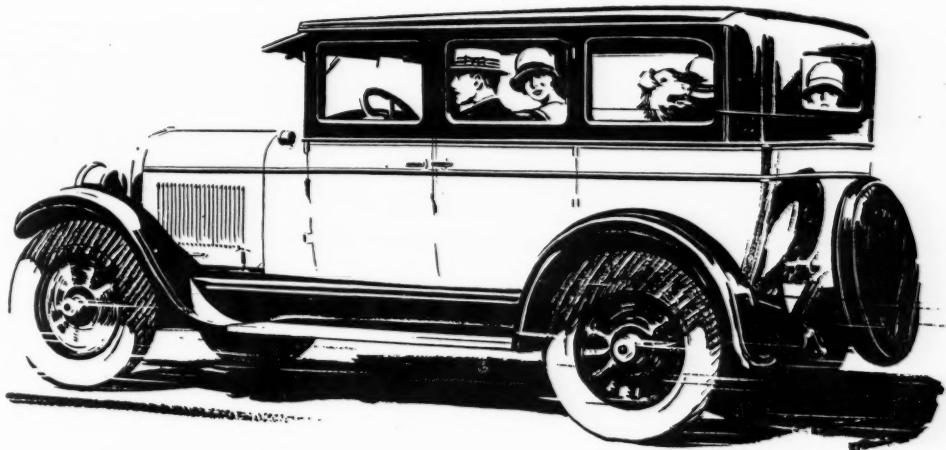
## Market to Chrysler Dealers

COUPE

**\$750**

\$780 - Coach  
830 - Sedan

All prices f. o. b. Detroit,  
subject to current Federal  
excise tax



group of new buyers, more than doubling the entire previous Chrysler money-making possibilities.

With its announcement every Chrysler dealer can consider nine out of every ten motor car prospects as Chrysler prospects—and he can build by speedy sales and "repeat" business a stable and ever-increasing market for himself in his territory.

Chrysler and the Chrysler dealers have experienced wonderful success during the past few years.

The addition of the new Chrysler "50" to the complete line of Chrysler

sixes—the sensational "60", the famous "70" and the superfine Imperial "80" with their distinct sales possibilities—opens a way to still greater development and to still greater profits.

Possibly you, too, can share in the profits which Chrysler's far-sighted policies now afford.

We will hold in strictest confidence your request for further details of the Chrysler franchise which gives you the most complete market coverage the industry has ever afforded, by a line of three splendid sixes and a four of super value.

CHRYSLER SALES CORPORATION, DETROIT, MICHIGAN  
CHRYSLER CORPORATION OF CANADA, LIMITED, WINDSOR, ONT.



"50"

*Chrysler Model Numbers  
Mean Miles Per Hour*

# Putting This Power Behind Vesta Auto-Radio Products

*Complete Advertising Campaign in 44 Publications—Saturday Evening Post—Liberty—and 42 Leading Newspapers*



VESTA TRICKLE CHARGER



VESTA "A" UNIT



VESTA X-201-A TUBE      VESTA X-199 TUBE



VESTA RADIO "A" BATTERY



VESTA ISOLATOR AUTO BATTERY



VESTA VACO AUTO BATTERY

With the New Vesta Radio Products—Trickle Charger—"A" Unit—and Tubes—added to the nationally known line of Vesta Radio "A" Battery and "B" Battery and Vesta Automobile Isolator and Vaco Batteries—the opportunity is opened to serve millions of Radio owners—in the same satisfactory manner that we have served the automobile owner.

This makes a line of quality products unequalled in the industry.

It gives the Radio and Battery dealer a COMPLETE LINE under one well known, reliable name.

Beginning the 4th of September and running right through the radio season we will present the merits of these products in these national and big city publications—to help the dealer keep the Vesta Products moving. There will be rapid turn-over and ever-increasing sales.

These products have new features that the Radio owner has been looking for—features not found in other Radio products.

In addition to the tremendous help this advertising will be to the dealer we have prepared COUNTER DISPLAYS ON ALL THESE PRODUCTS—MOVIE SLIDES—DEALER ADS—WINDOW SIGNS—WALL SIGNS—NEWSPAPER CUTS, ETC.

Radio and Battery dealers who are looking for the live lines are urged to communicate with us quickly so that we may have our Central Distributor put the facts before you now.

**VESTA BATTERY CORPORATION**

2100 Indiana Ave., Chicago, U.S.A.

**VESTA**  
**AUTO-RADIO PRODUCTS**

—Vesta for Vitality—

SEE THE VESTA EXHIBIT AT RADIO SHOWS—NEW YORK, SEPT. 13-18—CHICAGO, OCT. 11-17



----- WRITE HERE -----

VESTA BATTERY CORP., 2100 Indiana Ave., Chicago, Ill. M.A.-8-26  
Please have your Central Distributor near me present the Vesta

Radio Line

Auto Battery Line

Name.....

Address.....

City.....

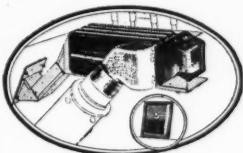
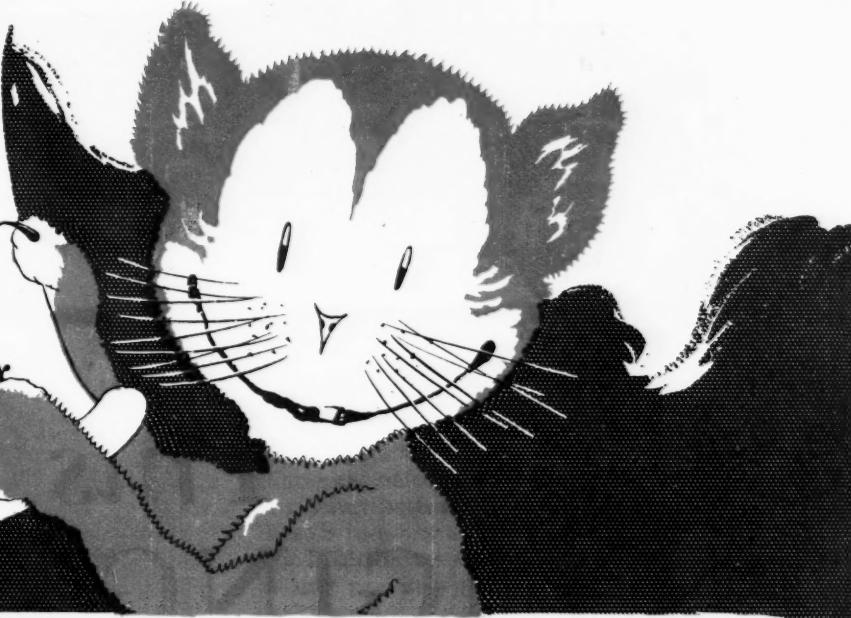
State.....

**Stock Up Now!**

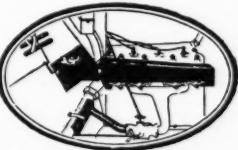
**EXTRA**

**COLD WEATHER  
COMING!**

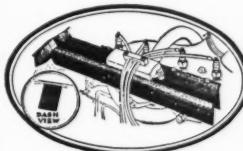
**It will bring  
tremendous  
demands for  
Heaters**



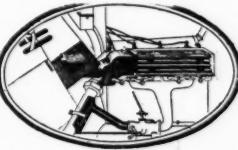
Chevrolet, \$6.00



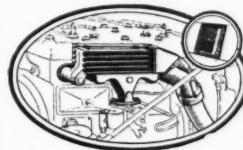
Ford, No. 1, sheet metal, \$1.75



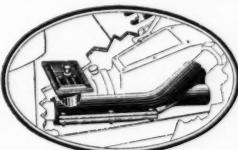
Overland, \$3.00



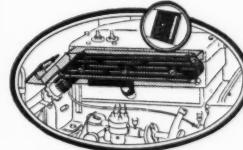
Ford, No. 2, cast iron, \$6.00



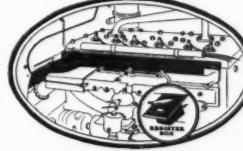
Star, \$9.50



Ford, No. 3, cast iron for  
"hot-spot" equipped cars, \$5.00



Dodge, \$9.50



Hudson, \$8.00



Essex, \$9.50

## **Big Winter Profits**

**for Dealers who are Ready**

**ALL WINTER LONG**—Red Cat Heaters will bring you big, steady profits. In just a few weeks, auto owners will be buying. Be ready with plenty of Red Cat heaters. It's none too early to stock up NOW.

### **FASTEAST HEATING — FASTEAST SELLING**

Red Cat has the quickest heating action you ever saw. Starts heating with the first turn of the motor. Going full blast in a jiffy. Develops 70° on coldest days before the car has gone many blocks. Outheats and outsells others. Low priced. Greatest heating value you can sell.

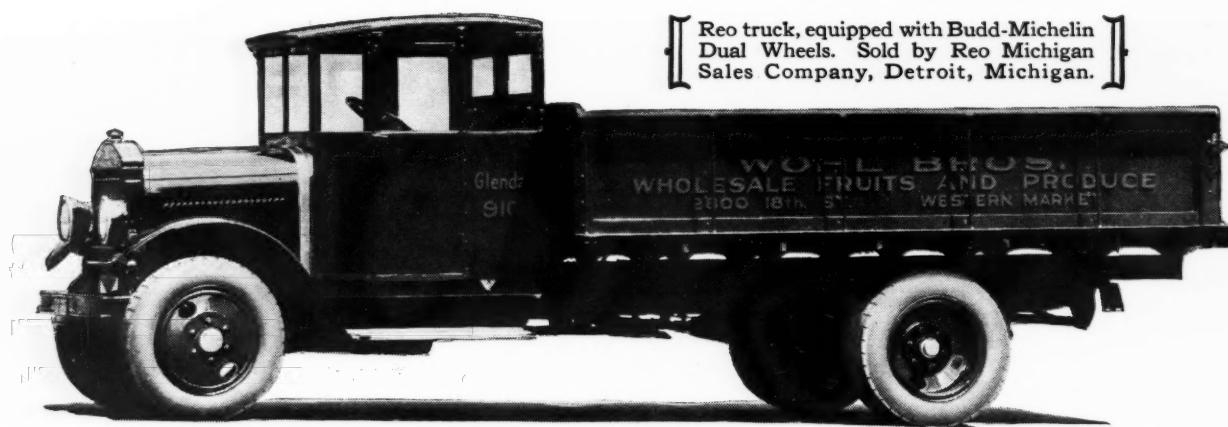
Plan, now, for the early buyers. Have your jobber ship you a stock right away.

**G. A. ROTH MFG. CO.**

Hastings,

Neb.

# **Red Cat Heaters**



# This CHANGING WORLD

**T**RANSPORTATION shifting from rails to highways—a revolution.

Now a new revolution, changing the character and hastening the growth of highway transportation.

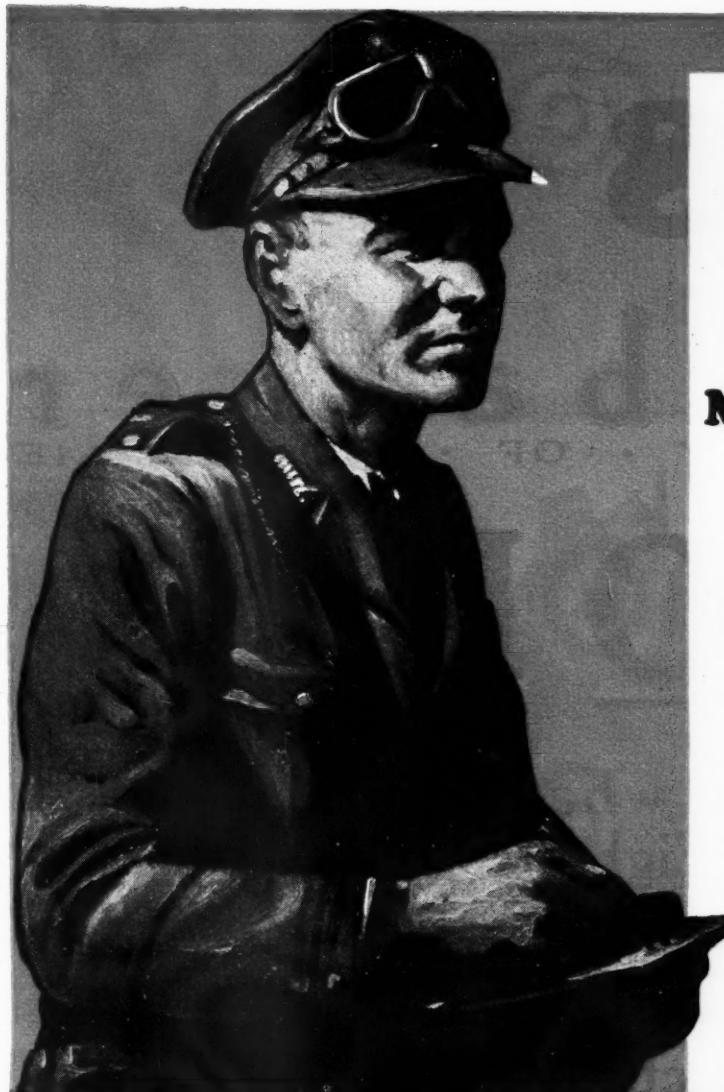
Plodding trucks are becoming swift. Two day's journey is becoming one day's. Breakage of fragile loads—spinning wheels in soft ground—the racking of the truck and the punishment of the driver—these things are antiquated.

Modern trucks ride on Budd-Michelin Dual Wheels and *pneumatic* tires—the same wheels that put 40,000 heavy buses on air, and enabled them to make express-train speed.

Heavy trucks with Budd-Michelin Duals are getting from 15,000 to 20,000 miles from a set of pneumatics. And Duals make a truck look like a bigger job and *do* a bigger job.

Leading manufacturers are supplying their dealers with Budd-Michelin equipped trucks to keep pace with modern transportation. They are building up their business—making the truck more profitable for their customers, their dealers, and themselves.

**BUDD**  
WHEEL COMPANY  
*Detroit*



*This orange and black sign, displayed outside your shop, will help build business for you, because it is familiar to the 25,000,000 readers of the leading magazines in which Multibestos advertising appears this year.*

## Multibestos Dealers' Biggest Year

**I**N 1925, more repair shops, service stations, garages and equipment dealers than ever before learned, through handling Multibestos, of the excellent profit there is in going after brake relining jobs. For Multibestos sales were greater than in any previous year of the company's existence.

The average car owner rarely knows the real condition of his brakes. Whereas you can tell almost at a glance. And whenever you install Multibestos, you are sure of a satisfied customer—because of the perfect braking qualities and the long wear Multibestos gives. And you are sure, too, of substantial profit.

*Write us for the Multibestos Profit Plan for 1926*

**MULTIBESTOS COMPANY**  
Dept. MA8, Walpole, Mass., U. S. A.  
Branches: New York Chicago Detroit Nashville

# MULTIBESTOS

REG. U. S. PAT. OFF

## BRAKE LINING

**The Lining Most Car Makers Specify**

### ALSO

**MULTIBESTOS Taxitrix Brake Lining**

**MULTIBESTOS Busduty Brake Lining**

**MULTIBESTOS**

**"229" Transmission Lining for Ford Cars**

**MULTIBESTOS**

**Special Transmission Lining for Ford Cars**

**MULTIBESTOS**

**No-Wire Transmission Lining for Ford Cars**

**MULTIBESTOS**

**Norfolk Transmission Lining for Ford Cars**

**MULTIBESTOS**

**Fibre Transmission Lining for Ford Trucks**

**MULTIBESTOS Quick Change Bands for Ford Cars and Trucks**

**MULTIBESTOS Brake Relining Machines**

**MULTIBESTOS Clutch Linings**

When you look at a Traffic Cop, think of Multibestos. This is one of the Multibestos pages in color appearing in consumer magazines.



**MULTIBESTOS**  
BRAKE LINING



8

**Rickenbacker**  
A • CAR • WORTHY • OF • ITS • NAME

**\$ 1000 Less**

That's exactly what the great Rickenbacker Eight costs—\$1000 less.

For all around performance—all around construction and design—and all around appointments—this Eight is in the same classification as the world's highest priced Eights—yet it costs \$1000 less.

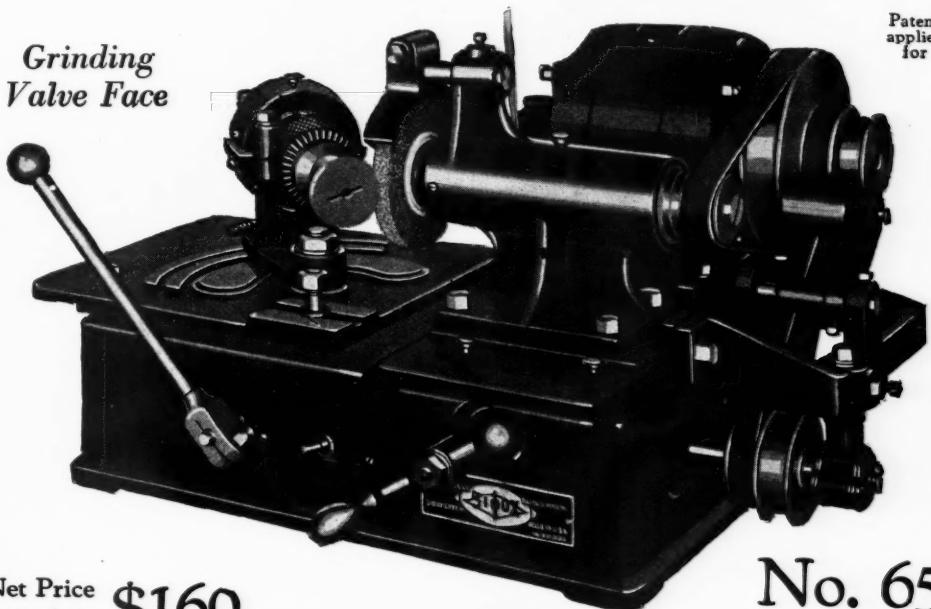
One short drive will convince. Here you have the finest Eight built—bar none—and at \$1000 less.

*Prices on Rickenbacker "Sixes" range from \$1495 to \$2195 and on "Eights" from \$2095 to \$2595—f. o. b. factory, plus war tax.*

**RICKENBACKER MOTOR COMPANY**  
DETROIT, MICHIGAN

# VALVE FACE GRINDING MACHINE

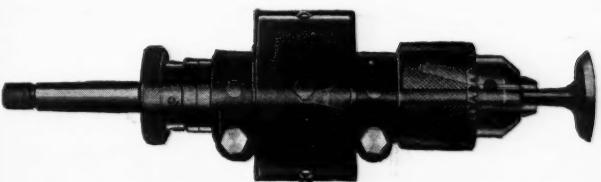
*Grinding  
Valve Face*



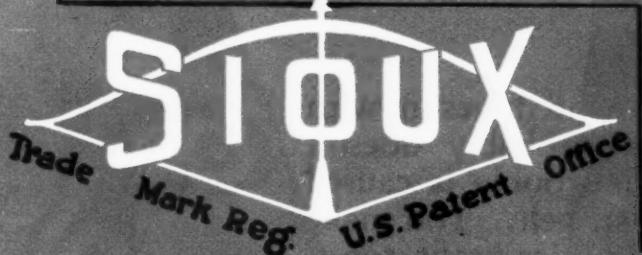
Patent  
applied  
for

Net Price  
complete \$160

No. 650



The perfected Sioux Chucking System  
guarantees accuracy within .001 inch.



**The Sioux is the Standard of Comparison by which all Valve Face Grinding Machines are judged. Investigate the Sioux before you buy.**

**Your Jobber Sells It**

ALBERTSON & CO., Sioux City, Ia.



The customer who drives up with a hot engine probably doesn't know that his trouble is caused by a slipping fan belt. You make a friend—and a nice profit, too—by replacing his slipping belt with the belt that really grips the pulley—the Gates Vulco.

*"The Standardized Fan Belt"*

# GATES VULCO BELTS

*Made by the World's Largest Manufacturers of Fan Belts*

**AC SPARK PLUGS**

**NOW 75¢**  
*for FORDS 50¢*  
*They Last Longer!*

SPEEDOMETERS  
AC AIR CLEANERS  
AC AIR FILTERS

**Because—**

The following cars and 124 others use them as original equipment.

**BUICK**  
**CADILLAC**  
**CASE**  
**CHANDLER**  
**CHEVROLET**  
**CHRYSLER**  
**CLEVELAND**  
**DAVIS**  
**ESSEX**  
**FLINT**  
**HUDSON**  
**JEWETT**  
**KISSEL**  
**MARMON**  
**McFARLAN**  
**NASH**  
**OAKLAND**  
**OLDSMOBILE**  
**PAIGE**  
**PONTIAC**  
**STAR**  
**STEARNS-KNIGHT**  
**WILLS SAINTE CLAIRE**

AC equipment business—today more than 50% of the entire car production—offers big sales possibilities because of the assured replacement demand from owners of AC-equipped cars.

**Now Popularly Priced**

**AC or AC Carbon Proof, 75c**  
**AC 1075 (for Fords) . . . 50c**

Heavily advertised through painted highway bulletins, national magazines, newspapers and dealer helps. Likewise they are the most profitable for the dealer to sell.

**AC Spark Plug Company**  
FLINT, Michigan

**AC-SPHINX**  
Birmingham  
ENGLAND

Makers of  
AC Spark Plugs  
AC Speedometers  
AC Air Cleaners  
AC Air Filters

**AC-TITAN**  
Levallois-Perret  
FRANCE

### AC Speedometers

The AC Speedometer for Fords—now \$10.00—is a full-sized speedometer, registering speed, total and trip mileage, the same previously sold at \$15.00.

### AC Air Cleaners

Prevent dust from entering the engine through the air intake of the carburetor.

Packed complete with all installation attachments—easily mounted and reasonably priced.

### AC Oil Filters

Positive protection against engine wear. Keeps the oil clean, making it unnecessary to change oil every 500 miles.

**The Very Material Reduction in Prices Has  
Brought the Highest Grade Tires Well Within  
the Reach of the Average Man**

**Now is the time to put real effort into selling tires  
like the Fisk Balloon and high pressure Cord Tires.**

**Most car owners value quality and will buy it when  
prices decline. It is the upward tendency that  
brings sales resistance.**

**Take advantage of the present situation. It is  
good business for you to sell and for your trade to  
buy the best the market affords. The prices that  
are now in effect make this possible  
as well as desirable.**



Time to Re-tire  
Get a FISK  
TRADE MARK REG. U.S. PAT. OFF.

**The Fisk Tire Company, Inc.**  
Chicopee Falls, Mass.



# FULL PROTECTION AGAINST THEFT

## CAR THEFTS

ACCORDING to figures compiled by the Liberty Mutual Insurance Company of Boston, 250,000 motor cars were stolen last year. This means that something like 8 per cent of the production of the year fell into the hands of thieves. Even allowing for the really portable nature of the automotive vehicle and its appeal to the thief, since it furnishes not only the booty but the getaway as well, this condition is far from a happy one.

By way of comforting the unfortunate car owner, the company states that four out of every five cars that are stolen are recovered, but even that fails to help the unlucky fifth owner who does not get his car back.

There is just one cure for all this, and that is maximum sentences, quickly applied, to convicted automobile thieves. Automobile merchants can help by campaigning for the full rigor of the law in all theft cases in their communities.

Reprinted from  
Automotive  
Daily News



## BUT ~ THERE IS ANOTHER CURE

Automobile thieves should be punished to the full extent of the law. No law-abiding citizen will put up an argument against such enforcement.

But the fact remains that it costs money to convict and sentence car thieves—even if it were possible to catch many of them. Most stolen cars are ditched or deserted when they run out of gas.

How much better and how much more economical it is to be able to lock a car so that it is absolutely theft-proof!

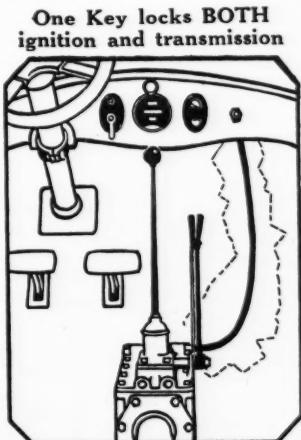
Some months ago this was impossible because no lock had yet been designed which was both convenient and forget-proof as well as theft-resisting to any great extent.

Now, the Blossom Coincidental Lock meets these specifications. It is a transmission lock (the only lock which safely locks a car) and is controlled by the ignition key (the only key about the car you can't forget).

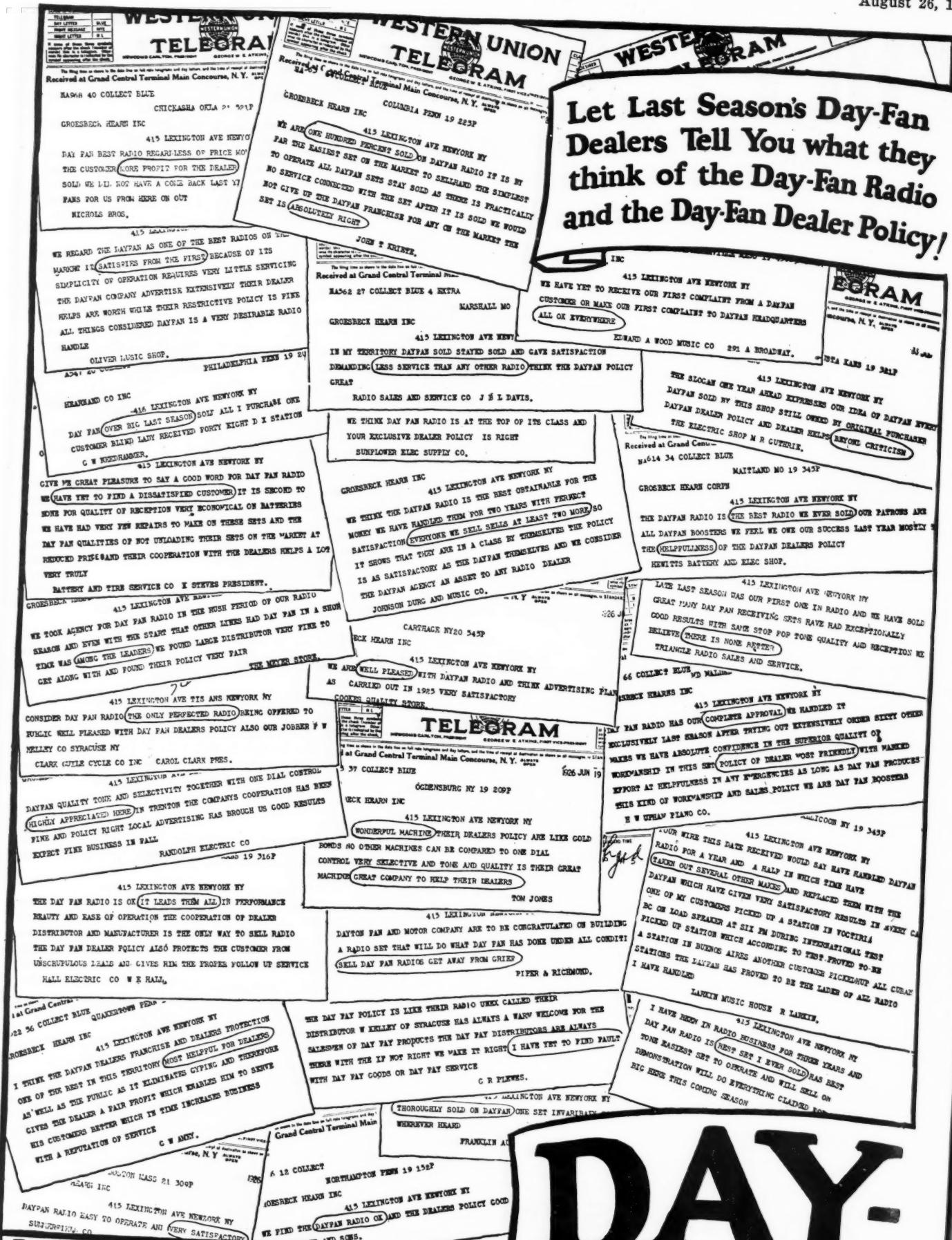
It is not in any way connected with the steering apparatus. It is mechanically—not electrically operated.

The Blossom Lock is applicable to all gear shift cars. Present model is designed particularly for Chevrolets and Pontiacs, both of which are enjoying a rapidly increasing popular demand.

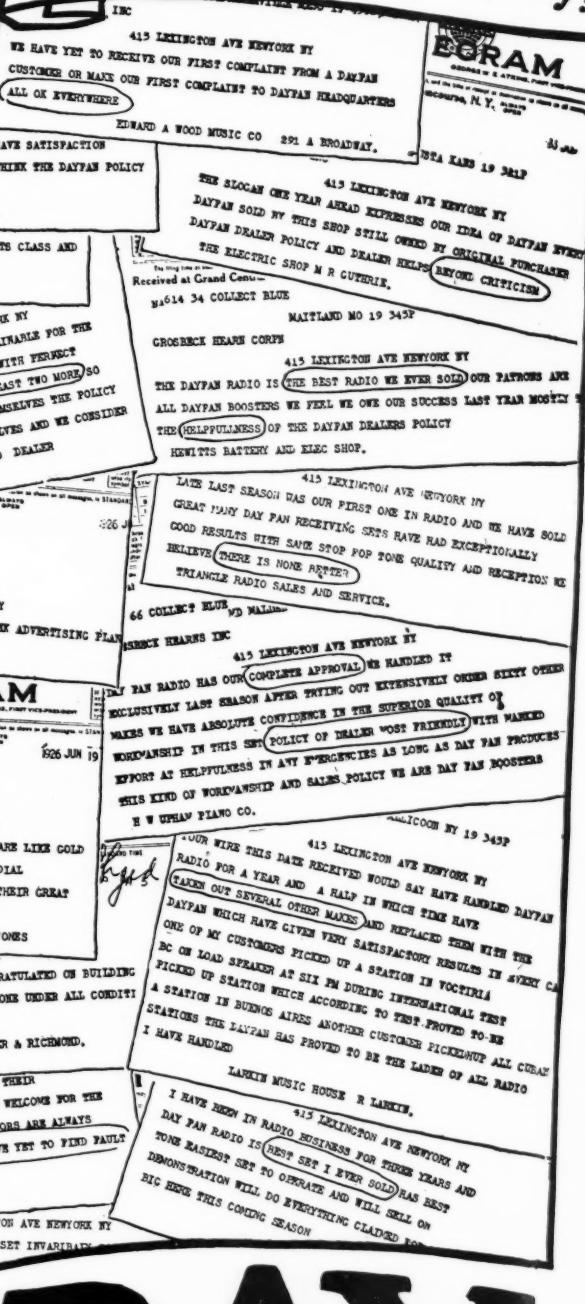
Dealers selling and servicing these makes of cars should write immediately for complete details. The Blossom Lock Company, Cleveland, Ohio.



# BLOSSOM COINCIDENTAL LOCK

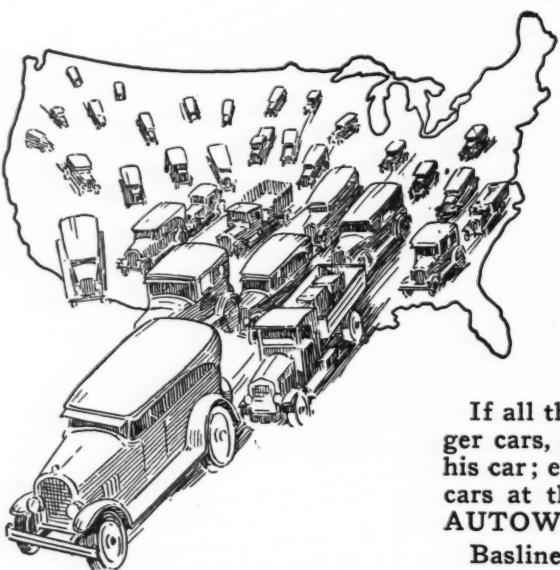


Let Last Season's Day-Fan  
Dealers Tell You what they  
think of the Day-Fan Radio  
and the Day-Fan Dealer Policy!



Day-Fan Electric Company (The Dayton Fan & Motor Co.)  
DAYTON, OHIO  
Makers of Radio Receivers, Fans and Motors with the  
Precision and Quality of 37 Years Electrical Experience






**Here's Your Market for BASLINE AUTOWLINE**

If all the motor cars in the United States were seven-passenger cars, and each driver would crowd an extra passenger into his car; every man, woman, and child would be riding in motor cars at the same time. There's your market for BASLINE AUTOWLINE—some market, eh?

Basline Autowline is a motoring necessity—it's absolute insurance against delay—it's a real emergency tool. Basline Autowline is—the original wire rope towline—the only nationally advertised towline—the only towline with patented Snap Hooks that cannot loosen. Above all, it is the towline of *exceptional strength*.

Basline Autowline pays Jobbers and Dealers a good profit, too. Write for Price List and descriptive literature.

**BRODERICK & BASCOM ROPE CO., St. Louis**  
Eastern Office and Warehouse, 76 Warren St., New York City

J. 341

# Profits . . .

**today . . . and for years to come**

When you know that the enormous repeat business of 50 MILLION Shaler Patch-&-Heat Units last year was produced by the sale of Shaler Vulcanizers in previous years, you can readily see the volume of extra profit you can get by recommending this vulcanizer to your customers as the quickest and easiest way to fix punctures.

**Ask Every Customer—"Got Plenty of Patches for Your 5-Minute Vulcanizer?"**

—It's the easiest way to sell the "HoleOutfit"



Write for the Free colorful Shaler Display Material. It will help you get the full benefit of our big national advertising. Send for it now. We'll see that you get it quickly.

**C. A. SHALER Co., 216 Fourth St., Waupun, Wis.**



Get Key Graphite Paste on that hurry up job!

MA-82626

LEAKY gaskets have no business delaying that hurry up job—or any other job for that matter. Apply a little Key Graphite Paste. The leakiest gasket cannot withstand those sealing qualities.

And as for corrosion, it cannot exist in the presence of Key Graphite Paste. Put it on these terminal ends where corrosion so often proves destructive.

Key Graphite Paste is a most unusual sealing compound. It expands when heated, is unaffected by acid, gas or oil, and never oxidizes or corrodes in the joint.

*Seals all gaskets and screw threads  
Prevents corrosion and rust  
Prevents all body and chassis friction  
Prevents oil and gas leaks*

Our descriptive booklet will tell you where and how to use it. It will enable you to save at least half an hour on every job.

Key Boiler Equipment Co.,  
27th & McCasland Ave.,  
East St. Louis, Ill.

I am enclosing ten cents in stamps.  
Please send me sample can of Key Graphite Paste and free descriptive leaflet on where and how to use it.

Name \_\_\_\_\_  
Firm \_\_\_\_\_  
Address \_\_\_\_\_

KEY BOILER EQUIPMENT  
COMPANY  
EAST ST. LOUIS, ILL.

Send for  
Sample  
Today

## "YANKEE" Screw-drivers Stand Hardest Tests

This man wanted to find out what kind of stuff a "Yankee" Plain Screw-driver is made of; And whether the blade would loosen in the handle.



So he made his own tests

First, he tried the temper and toughness of the blade. With "Yankee" No. 90 he cut off a strip of steel, without chipping or even marking the blade.



Next, he took this same No. 90, and with the blade cutting across the grain, drove it into a four-inch plank.

Then, with heavy blows on the handle, he drove the blade through the plank, right up to the ferrule—without splitting or loosening the handle!

Finally, with the blade held in a "Yankee" Vise, he applied tremendous leverage to the handle. But even this powerful twist failed to turn or loosen the handle.



No. 90—Standard style, 15 sizes, 1½ to 30 inch blades.  
No. 95—Cabinet style, 11 sizes, 2½ to 15½ inch blades.

### Some other "Yankee" tools

Ratchet Screw-drivers  
Brake Lining Cutter  
Ratchet Breast and Hand Drills  
Automatic Feed Bench Drills  
Ratchet Tap Wrenches  
Vises, Removable Base.

Dealers everywhere sell "Yankee" Tools

"Yankee" on the tool you buy means the utmost in quality efficiency and durability

### "YANKEE" TOOL BOOK FREE

Send us a postal with your name and address and get this free book, showing how "Yankee" Tools save time and labor.

NORTH BROS. MFG. CO., Philadelphia,  
U. S. A.

**"YANKEE" TOOLS**  
*Make Better Mechanics*



# "We Consider The Simplicity"

Portable Cylinder Reborer and Grinder

*One of the Most Valuable  
Assets in Our Shop Today"*



Simple and Easy  
to Operate

A. F. BETHMAN  
MGR.

BETHMAN MOTOR CO.  
ALAMOSA, COLO.

There are shops all over the country today, where actual net profits of between \$5,000 and \$10,000 a year can be traced direct to work done with SIMPLICITY equipment.

It is no wonder that owners consider such money-makers valuable assets—and write in to tell us about it.

Mail the Coupon  
for Details

Get our 1926 Catalog. It describes fully the SIMPLICITY Reborer and Grinder, Valve Face Grinder, Reseating Cutters and Pilots, Crank Pin Tools, Connecting Aligners and Bench Grinders.

The SIMPLICITY Portable Cylinder Reborer and Grinder is sold on easy terms. Many pay all except the small down payment from profits the outfit makes for them. In any event the balance comes out of earnings. Your credit here is good!

**Simplicity Mfg. Company**

110 Spring St., Port Washington, Wis.

Experienced garage mechanics with sales ability and small capital wanted in our sales organization, especially in Eastern Territory.

Simplicity Mfg. Company,  
110 Spring Street, Port Washington, Wis.

Please mail me your 1926 catalog describing the entire SIMPLICITY line.

Name \_\_\_\_\_

Street \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_

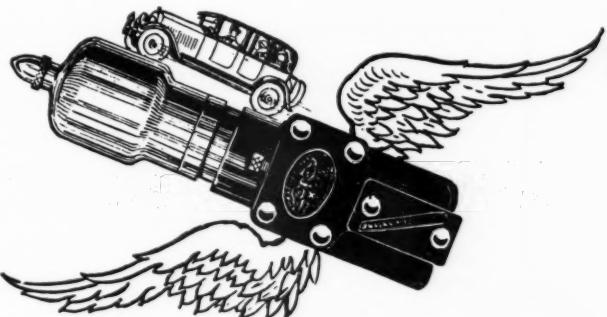
Do you  
ever  
wipe off a  
windshield --  
?

There is perhaps no courtesy more appreciated by owners than that of polishing the windshield.

For the little time it takes, it brings in big returns.

If you never do it — try it. If you do it sometimes—do it all the time. Drivers seldom take their eyes off the windshield. It's a good place to advertise your service by making it shine.

**MOTOR AGE**  
5 S. WABASH AVENUE  
CHICAGO, ILL.



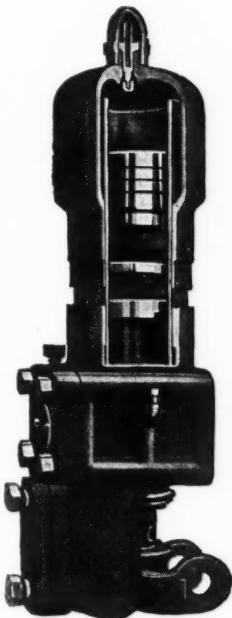
*There's nothing like AIR  
for easy riding*



FOR fifteen years Westinghouse Air Springs have been known as the finest method of shock elimination.

The air cylinders control both up and down thrust, eliminate recoil by dampening and reducing spring compression, preventing shocks or vibrations from reaching the frame.

Yet they allow increased freedom of running gear action.



With new balloon type models, improved method of installation, and lower prices, the Westinghouse franchise means extra profits for you.

Dealers: You should know our new wholesale policy. Write for net price list and dealer proposition, and descriptive folder (M). Sent on request.

## The Westinghouse Air Spring Co.

Factory and General Offices: New Haven, Conn.

SALES AND SERVICE BRANCHES  
New York Philadelphia Boston Cleveland Chicago Atlanta Los Angeles

**GF Allsteel**  
The Complete Line of Office Equipment

### Allsteel Shelving For Auto Accessories

LIGHT, strong, fire-resistant—quickly erected or re-erected without special tools—and giving 10 to 30% greater storage space.

To fit growing needs, additional units may be added later—or the entire installation moved and re-erected elsewhere.

Allsteel Shelving makes the finding and placing of auto accessories remarkably easy. And the Allsteel mark on the shelving you buy is a guarantee that you've made a permanent investment.

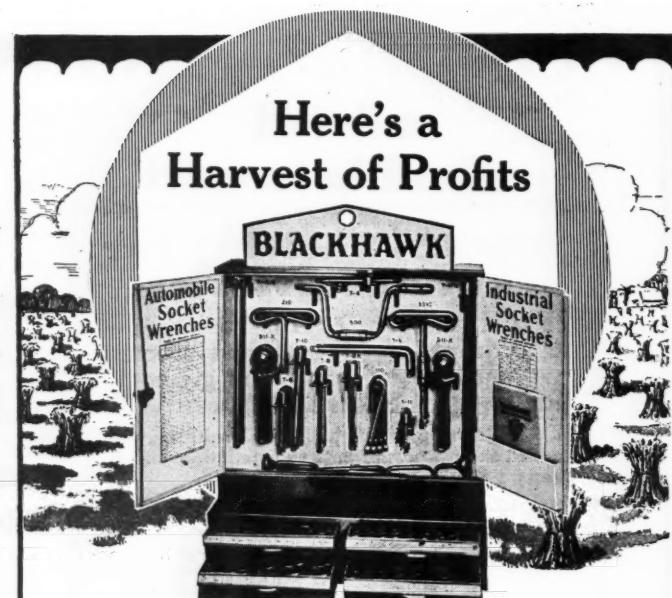
*Write for a copy of "Saving with Shelving"*

THE GENERAL FIREPROOFING CO.  
Youngstown, Ohio

Dealers Everywhere • Canadian Plant: Toronto, Ontario



Send this coupon to your fire insurance agent  
The General Fireproofing Co., Youngstown, Ohio  
Please send me without obligation a copy of your book "Saving with  
Shelving."  
Name.....  
Firm.....  
Street No.....  
City.....  
State.....



THIS BLACKHAWK Display Cabinet on your counter attracts every car owner to this interesting display of wrenches. He steps up and examines them. That's your cue—and you can usually sell him a set for his car.

The Wrench Set Manual with each cabinet shows how to make up sets in any assortment, for any car.

Blackhawk Socket Wrenches are built for heavy duty service. The sockets click on easily, yet never drop off or slip. Handles have just the right reach and leverage. Ask your jobber how to get this sales producing cabinet FREE.

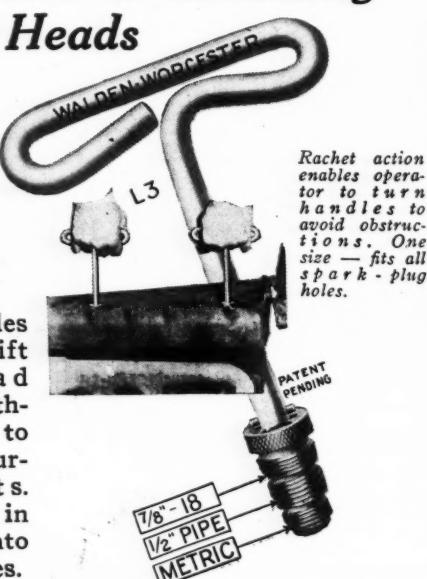
Blackhawk Mfg. Co. Dept. S Milwaukee, Wis.

## BLACKHAWK

### Saves Time in Removing Cylinder Heads

A NEW tool—by Walden-Worcester—the Walden-Worcester Cylinder Head Lifter. It enables the user to lift cylinder head from block without damage to gaskets or surrounding parts. Tools are used in pairs and fit into spark-plug holes.

Especially useful on thirty-five popular cars. Write for our catalog No. 50.



Any one of the Walden-Worcester jobbers will gladly supply you. Have your jobbers' salesman give you details today.

**STEVENS WALDEN-WORCESTER, INC.**  
Successor to Stevens & Co., Walden-Worcester, Inc.  
475 Shrewsbury St. Worcester, Mass.

### Your Bearings Made to Order

Mail us your blueprints and requirements, and we will promptly send you estimates on Angular Contact Radial Bearings, Angular Contact Thrust Bearings, and Thrust Ball Bearings of all kinds. Our Engineering Department is at your disposal for consultation.

**THE BEARINGS COMPANY OF AMERICA**  
Lancaster, Pa.

Western Sales Office  
1012 Ford Bldg.  
Detroit, Mich.

### MORRISON Automatic Double Range

#### Worm Drive JACKS

Special model for Balloons  
Can't Slip or Tilt



Flexible steel "Sure Hold" cap prevents dangerous slipping. Long folding handle (36 to 72 in.) operates from standing position. Gets under overhanging bodies. Easy to work. Few worms and it's up. Built in 11 sizes for all service requirements up to 8 tons. Furnished as standard equipment on fine passenger cars, trucks, buses and Fire Apparatus for past 4 years. The Jack for YOUR shop. Write for sample for test.

**THE WOODS ENGINEERING CO.**, Alliance, Ohio  
General Sales Representatives for Canada, carrying branch warehouse stock:  
Colonial Traders, Ltd., Chatham, Ontario, Canada.

### FOLLETT'S NEW MODEL TIME STAMP

accounts for every labor minute



Prints the year, month, day, hour, minute, A.M. or P.M. at the exact moment the plunger is pressed—like this, for example:

NOV 19 1920 4 31 PM

Tells when a job is started—and when it is finished. There can be no dispute over the time charge.

Absolutely automatic—except for winding. Every machine guaranteed.

**Follett Time Recording Co., 217 High Street, Newark, N. J.**  
"Established Since 1904"

**Sales and Service**  
go together as long  
as you keep your  
mind on service—

**MOTOR AGE**

5 SOUTH WABASH AVENUE  
CHICAGO ILL.

For the Emergency!



## GRIPPERS sell

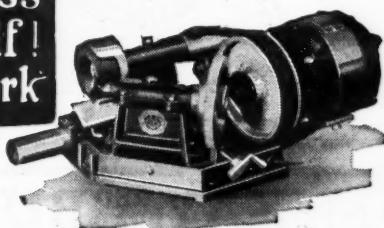
GRIPPERS regain traction for cars and trucks that are stuck. Easily attached—even though the wheels may be up to the hubs in trouble—they take hold where it counts and things start to move.

GRIPPERS are not a substitute for skid chains. They are for emergency use—and they work.

Also they sell—and the profits are worth while. Write for details.

**Gripper Manufacturing Company**  
536 Lake Shore Drive Chicago, Ill.

Costs Less  
than Half!  
Better Work



### CROWE CUP WHEEL VALVE REFACER

Price Only  
**\$87.50**  
Complete  
EASY TERMS

THE astonishingly low price of this machine puts it within the reach of every auto repair shop. The big shop can give better service with the Crowe. And with this machine the small shop is fully equipped to give the same high grade valve service as the big shop.

But aside from its money-saving price, the Crowe has many special features that make it preferable.

We would like an opportunity to give you the complete details of this improved valve face grinder, and our easy payment plan. Money back guarantee. Will you write us today for this information?

**LISLE MANUFACTURING COMPANY**  
Box C, CLARINDA, IOWA

## Your Ford Won't Boil with the G. B. Impeller

Here is a fan—scientifically designed to surpass anything yet manufactured.

Keeps the Ford engine Cool on the hottest day no matter how hard you run it over the country taking grades and hills.

The G. B. IMPELLER insures smooth running of your car and proper operation of

the Ford Thermo syphon cooling system. Cools the car better than a water pump and does away with the need of one.

Reduces evaporation and cuts down replenishing water in radiator about 50%.

Increases efficiency and life of your Ford.

Saves Gas and diminishes repair bills.

Installed in a few minutes by any one. Just re-

move the regular fan and put on the Impeller. It fits exactly. Nothing to get out of order. No special tools required.

Retail  
Price

**\$3.00**

### UNLIMITED GUARANTEE

Send in your order today. Should you not get satisfaction after 10 days trial, return the Impeller to us collect and we will refund the money.

Regular Trade Discounts Made

Agents Wanted

**DE BOTHEZAT IMPELLER CO., INC.**  
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## Move Your Used Cars by Repainting Them

Paint greatly increases the value and saleability of used cars. With a Handigrip Spray Gun any handy man can do a good paint job. Even in inexperienced hands the spray control does away with runs and sags. You increase sales at small expense. Plummer-Huff Refund Check with invoice guarantees satisfactory results or money back. You run no risk. Get in the repaint game. Terms if desired. Write today.



Oil paints—  
Enamels—  
Varnishes—  
New auto lacquer—  
Smoothly and easily applied

Wheels neatly striped  
An hour's work done in five minutes

**Plummer-Huff Company**  
Napoleon, Ohio



## Now Ready! 7th Edition

Latest Data on Used Car  
Prices, etc.

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This latest edition of THE LITTLE YELLOW BOOK (just off the press) printed in pocket size,  $3\frac{1}{2}$ " x 6", contains 400 pages of up-to-the-minute information on 129 makes and models, listing: high and low market values, methods of identification, comparisons of equipment, complete mechanical specifications, serial numbers, original factory prices, AND IN CODE, the highest price you can afford to give for any car and make money.

Issued four times a year—once every three months. Year's subscription only \$5.00. It will save you that on one deal alone. Order today.

**National Used Car Service**  
Chambersburg, Pa.

## IMPROVED HYDRAULIC JACK

Trucks and busses are easily and safely handled.

**The LITTLE GIANT**  
Lifts 24,000 lbs. With One Hand



Starts and stops at any point.  
LIFT  $7\frac{1}{2}$ ".  
BASE  $11\frac{1}{2}$ " x 30".  
Lowered by touch of a valve.  
JUST LET US SEND YOU A COMPLETE DESCRIPTION OF THIS WONDER JACK

**Write STANDARD EQUIPMENT CO.**  
Hales Corners, Wisconsin

# TENAX

"Original Blue Sheet" COMPRESSED  
ASBESTOS SHEET PACKING  
Makes a Quality Job

Thousands of repairmen have used TENAX Asbestos Packing exclusively for years for service in those parts of automobiles where there IS HEAT. Its convenience and quality have made it standard shop equipment. And TANPAC Fiber Sheet Packing, too, for packing where there is NO HEAT. Tough as rawhide, highest tensile strength.

Write for literature covering the entire  
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**GENERAL MOTORS**  
BUILDING

Broadway to 8th Ave. ~ NEW YORK ~ 57th to 58th Street

Renting &  
Managing Agent

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**BRUNNER**  
AIR COMPRESSORS  
**FREE**

Write for the Book  
**"AIR PROFITS"**  
describing many new uses for compressed air. Shows how to make an air compressor earn greater profits.

**BRUNNER MFG. CO.**  
NEW YORK

MOTOR  
SAFETY  
SIGNALS  
FOR ALL  
CARS



Faith

**Beauty Ball**

Locking Cap

For All Model Cars  
Made by special process high in lustre, handsome and attractive. Withstands all weather conditions. Guaranteed not to crack. Senior Model \$4.50. Junior \$3.50. Ask your Jobber.

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**AIR COMPRESSORS**

U. S. PAINT SPRAY EQUIPMENT  
Production pushed to fullest factory capacity because of popular demand.

THE UNITED STATES AIR COMPRESSOR CO.  
5304 Harvard Ave., Cleveland, O.

**RACO Cast Aluminum  
Step Plates**

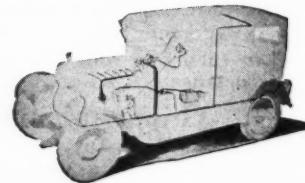
They sell fast as they improve any car. Made of number one virgin metal. No scrap nor remelt metal used. Beautifully polished. Material and workmanship fully guaranteed. High quality black rubber mat and nickelized screws or stove bolts furnished with each plate. Many styles and sizes. Write your jobber today for price lists and discounts.

Reynolds Aluminum Co.  
Dept. B-6 New Washington, O.



**Packard**  
Cable

The Packard Electric Co.  
Warren, Ohio



Let us  
send our  
profit-  
boosting  
plan.  
It's Free.

**MCKAY RED BEAD BUMPERS**

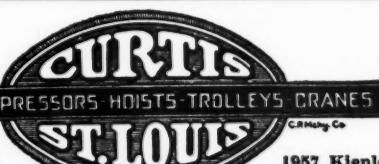
McKays sell because they add to the beauty of the most beautiful car and protect that beauty for the life of the car.

UNITED STATES CHAIN & FORGING  
COMPANY  
Union Trust Building, Pittsburgh, Pa.

**MCK**

**CURTIS**  
AIR COMPRESSORS HOISTS TROLLEYS CRANES

Curtis Pneumatic  
Machinery Co.



1957 Klienlen Ave.  
St. Louis, Mo.

**Glareproof  
AUTO MIRROR**

"Write Your Own Guarantee"

# Our SAMPLE CASE

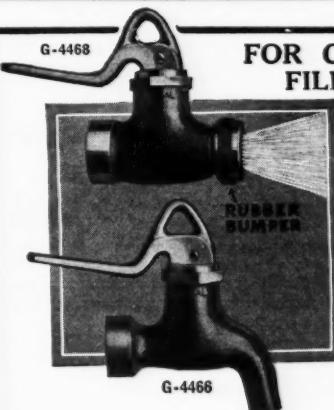


In my Sample Case I carry only representative products and call upon a big majority of the really worth-while retailers who are logical outlets for your merchandise.

I cover the whole territory once a week. Not only do I get favorable attention from the owner of each establishment, but the salesmen and the service men—even to the lads at the gasoline pumps—get my story.

If you are a manufacturer with desire for good representation to dealers just ask MOTOR AGE to write you about the small cost of the service I am prepared to render you.

Sam P. Case  
Care of MOTOR AGE, 5 S. Wabash Ave., Chicago



## FOR CAR WASHING AND FILLING RADIATORS

G-4468 Royal Selfclosing Auto Wash Valves

eliminate all sloppiness and waste water—give you water when you want it and where you want it. Fit any standard garden hose connection.

G-4466 Selfclosing Auto Radiator Fill Faucets

eliminate the old-fashioned, sloppy, unsatisfactory water can—fill your radiator direct from faucet. Every up-to-date filling station and garage should have them.

If your jobber can't supply you, write us direct.

The Royal Brass Mfg. Co.  
Cleveland, Ohio



A quality product  
which saves the re-  
pairman time and  
trouble.

**VELLUMOID**  
THE VELLUMOID REAL  
REPLACEMENT GASKET MATERIAL

M'd by The Vellumoid Co., Boston, Mass.

## ANCHOR BALL BEARING SHOCK ABSORBER

A New and  
Better Idea

Fits 95% of all cars

List Price \$10.00

Big discounts to dealers

A BIG SELLER. Write for  
circular and special dealer  
offer

ANCHOR ELECTRIC CO.  
557 W. Jackson Blvd. CHICAGO



## REWOUND ARMATURES EXCHANGED

All armatures strictly hand-wound, guaranteed equal to new. Shipped same day order is received.

Ford Generator and  
Starter ..... \$1.50

Large Double Unit Gen-  
erator ..... 4.00

Small Double Unit Genera-  
tor ..... 3.25

Double Unit Starter ..... 4.00

Motor Generator ..... 8.00

(Delco, Northeast, Dyneto)

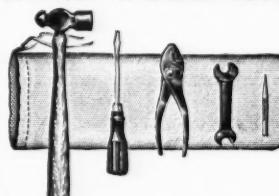
## Carty Armature Service

1608 Fourteenth St., N. W.

WASHINGTON, D. C.

Largest Exchange Rewound Stock South of New York

## THIS TOOL KIT HELPS TO MOVE THOSE USED CARS



1 Screw Driver, 4" Blade.  
1 Ball Pein Hammer.  
1 6" Pliers.  
1 No. 25 double end wrench.  
1 Punch.  
Complete in draw-string bag. No. 156.

Price 75c \$8.40  
doz.

If your jobber can't supply  
you, write direct.

## CHICAGO TOOL & KIT MFG. CO.

156 Whiting St.,

Chicago

## Mr. Manufacturer

You are invited to have this Sample Case Salesman present your proposition to the leading Automotive Merchants. This Salesman has effective contact with nearly 25,000 prospects. Drop us a line and we will tell you all about this economical plan.

**SAMPLE CASE SALESMAN**  
**MOTOR AGE**  
5 So. Wabash Ave., Chicago, Ill.

## YOUR BEST BET:



Covered by several  
patents. No. 83 Qt.  
No. 84 Pt. For gas-  
oline. FULLY  
GUARANTEED.

## "ALWAYS RELIABLE" TORCHES & FURNACES

They have been on the market for just 50 YEARS. During that time they have built up a WONDERFUL REPUTATION on quality and merits. You should use them and receive better results. Jobbers supply at factory prices.

OTTO BERNZ CO. INC.,  
NEWARK, N. J.  
Offices in New York City, Chicago, Fort Worth,  
Denver, Helena, Mont., San Francisco, Los Angeles,  
Seattle, and St. Thomas, Ont.



### Here's the Way to Sell Tire Chains

Let the package they come in display them. By making them easy to buy, you automatically make them easy to sell. Dealers like the WESCO carton. Write.

Western Chain Company  
Chicago, U. S. A.



### More Power Less Fuel

Zenith - Detroit Corporation, Detroit, Mich.



### Mallory Ignition Coil

Has two primary windings instead of one. Gives a hotter spark, makes easier starting, gives more power, quicker pickup and more mileage. Try it on a sluggish motor. Write for full particulars.

The Mallory Electric Corporation, Toledo, Ohio.

Transmissions  
and Clutches

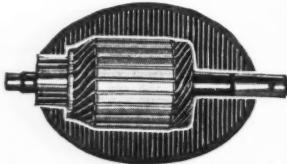


Trucks, Busses  
Passenger Cars

QUICK SERVICE ON COMPLETE UNITS OR PARTS

**BROWN-LIPE GEAR CO.**  
SYRACUSE, N. Y.

### FREDERICKS Rewinding Service



New Rewind Profits—See announcement every 4th week. Write now for price list. The H. M. Fredericks Co., Lock Hoven, Pa.



### Pneumatic Tools Electric Drills

Pneumatic Drills and Reamers; Wood Boring Machines; Close Corner Drills; Hoists; Grinders; Riveting Hammers; Chipping, Calking, Flue Beading and Scaling Hammers; Rivet Busters; Clay Diggers; Air Moisture Separators; Pneumatic Tool Accessories, Hose and Couplings; Electric Drills, Reamers, Tappers, Grinders, and Screw Drivers.

INDEPENDENT PNEUMATIC TOOL CO.  
600 W. Jackson Blvd. Chicago, U. S. A.

**TASCO**  
Gas Gauge for  
FORD  
CHEVROLET  
OVERLAND  
and STAR



Sells Quick at \$1.25 Retail.  
Types "K" and "J" for 1926.  
Chevrolets and all  
Stars Sell at \$1.50

THE AKRON-SELL CO.  
Akron, Ohio



ENGINE TESTER AND  
CARBON OUTLET VALVE

Dependable.  
Certain. Easily  
installed. A big  
seller all the  
year round.

### SPEE-DEE CLEANS UP for Dealers



Results in quick stock turn-over, with small investment and liberal profits. Without water it removes grease, stains, etc., from hands, cloths, upholstery, paint or enamel. Indispensable in shops, service stations and car kits. List 35c.

Write for discount details.

States Chemical Company  
703 W. Fulton St. Chicago, Ill.



### UNITED STATES Portable Electric DRILLS

Built by the oldest maker of  
Portable Electric Drills in the  
World.

Catalog 105  
Ask for

THE UNITED STATES ELECTRICAL TOOL CO.  
Cincinnati, Ohio, U. S. A.



The new

### WEED Levelizer

"Levels the road as you go"

Made by the makers of WEED CHAINS and BUMPERS

### Kawneer SOLID COPPER STORE FRONTS

Write for Special Book Garage Front  
THE KAWNEER CO., 3724 Front St., Niles, Mich.

Always Insist Upon  
Genuine  
Apex Innerings

Most good  
Jobbers stock them  
If it isn't an Apex—It isn't an  
Innering

THOMSON MFG. CO.  
Dept. C Peoria, Ill.

### TIMKEN Tapered ROLLER BEARINGS

The boys who have read

**MOTOR AGE**  
for twenty-five years  
**STILL THINK IT'S BEST!**

### The Original Bosch



Franchise details for selling ORIGINAL BOSCH  
Automotive Equipment will be sent to any Distributor,  
Dealer or Service Station on request.

ROBERT BOSCH MAGNETO CO., Inc.  
109 West 64th Street New York, N. Y.

ORIGINAL  
BOSCH units  
bear the full  
name, Robert  
Bosch, and  
the trade  
mark shown  
at left. These  
are the identi-  
fications of  
Bosch qual-  
ity-famous  
since 1887.



### Guaranteed Unbreakable Gear Shift Ball

Made in all combinations from 11 basic colors. Packed 18 in attractive counter display box. Counter display cards also furnished. Complete with all necessary bushings. 2 in. in diameter. Highly polished. Fast seller. Price \$1.25. Write for details and catalog of entire line of 12 items. Order from your jobber or direct.

RAINBO ACCESSORIES COMPANY  
1420 S. Michigan Ave., Chicago, Ill.

### New Type PERFECTION MOTOR CAR HEATERS \$5 to \$8



Prevent This

Stops Pump Shaft Leaks  
Immediately and Permanently  
Conneaut Plastic Metallic Packing molds in the fingers to fit stuffing-boxes of any size or shape. It is a repair for the worn shaft and loose bushing. At your jobbers; if not write us.  
1 lb. can.....\$1.75 per pound  
5 lb. can.....\$1.60 per pound

THE CONNEAUT PACKING CO.  
Conneaut, Ohio

ELIMINATES SLOW LEAKS  
from rusted clincher rims. An endless piece of specially compounded rubber. Snaps on rim like rubber band. Fits snug all around. Prevents tube touching rusted rim. One size fits all clincher rims. Write for discounts.

LAENG MFG. CO., 3722 Lorain Ave., Cleveland, O.  
25 Beaver St., New York City

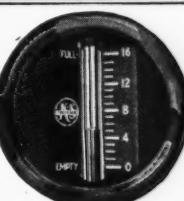


### Laeng Clincher Rim Flap

### CELORON TIMING GEARS

Resilient: Save every part of the timing mechanism from the effects of vibration and shock.

DIAMOND STATE FIBRE CO.  
Bridgeport, Pa. Chicago, Ill.



### The K-S GASOLINE Telegage

A gasoline gauge on the Dash. Note our half-page advertisement in the Saturday Evening Post, September 18th. Write for description and proposition to the trade.

KING-SEELEY CORPORATION  
298 Second Street Ann Arbor, Mich.  
Chicago Branch, 2450 Michigan Boulevard

### "As Silent as a Shadow" Quincy Compressors Quincy, Illinois

J-538

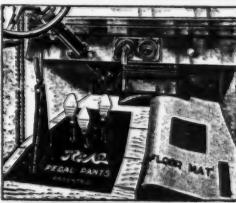


### So-Lo Jack Co., Inc.

Attleboro Mass.  
Sales Office 108 Massachusetts Ave.  
Boston Mass.

### Cash in on This Profit Maker! Riecie PEDAL PANTS

Keep cold air from whizzing through door openings in Fords, Chevrolets, Dodges, Stars, Grays, Overland Fours. A sure-fire hit when the thermometer drops.  
Sells quickly—adjusts without tools—big profits.



Ask your jobber today.



FROM THICK  
TO THIN  
DOWN TO THE  
LAST PLY  
IT HOLDS

### Two Hones in One HALLO HONE \$35. Solid Pressure — Spring Pressure

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##### PARTS

##### AUTO PARTS

SAVES 50% TO 75% ON ALL CARS  
New and Used Gears—Springs and Axles—Cylinders—  
Motors—Rear Systems, etc. Wire or Write.

INDIANA AUTO PARTS CO.  
608-10 N. CAPITOL AVE., INDIANAPOLIS, IND.  
LARGEST CAR WRECKERS IN INDIANA

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##### C. L. PARKER

Ex-Examiner U. S. Patent Office  
Attorney-at-Law and Solicitor of Patents  
McGill Building, Washington, D. C.  
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Australian Buyer desires to purchase any special job lots automobile and motor cycle parts and accessories. Address Willbuck, 73 Pearl Street, New York City.

GOOD OPPORTUNITY FOR MEN OWNING CARS to purchase automobile bulbs to sell to gas stations and dealers. Attractive discounts. Address Box 6277, Motor Age, 5 S. Wabash Ave., Chicago, Ill.

##### HOUSE OF A MILLION AUTO PARTS

The largest stock of new and used car and truck parts in the world. We have everything. Always mention model and serial number in order. Write us. All inquiries answered promptly.

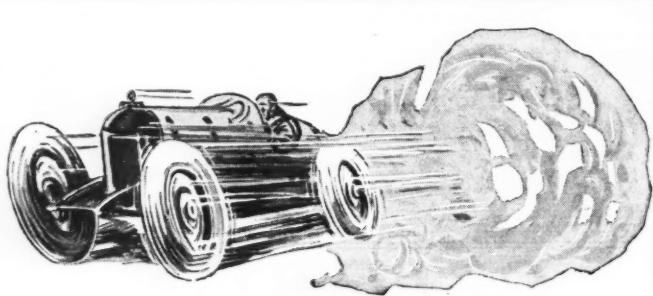
DOUGLAS AUTO PARTS CO., INC.  
2003-5-7-9 South State St., Chicago, Ill.

##### REPRESENTATION WANTED

WELL KNOWN BRITISH FIRM OF MOTOR ACCESSORY MANUFACTURERS HOLDING BRITISH CAR EQUIPMENT CONTRACTS WISHES TO TAKE UP SOLE AGENCIES FOR AMERICAN ACCESSORIES FOR BRITISH ISLES AND COLONIES. APPLY THE WILMOT MANUFACTURING CO., LTD., EASTERN WORKS, CAMDEN STREET, BIRMINGHAM, ENGLAND.

##### CLASSIFIED ADVERTISING RATES

Ten cents a word is the rate for all undiscounted advertisements set solid, regular want ad style; minimum charge \$1 an insertion. All capitals, 12c a word; all capitals, leaded, 15c a word. Payable in advance.



# ANOTHER FACT INDIANAPOLIS PROVES! BALLOON TIRES DO SKID!

When rain poured down upon the recent auto speed classic at Indianapolis the race was halted at the 400th mile because the roaring, skidding, balloon-tired cars threatened at any moment to wreak destruction and death to drivers and spectators.

Whenever you get the combination of a wet and slippery road and rubber tires — no matter whether balloons or cords — there is the ever present danger of skidding.

When it rains, tire chains are a necessity on almost every type of road. A set of Dreadnaught Tire Chains on skiddy roads is the finest and cheapest accident insurance that can be bought.

## The Columbus McKinnon Chain Co.

**General Sales Office: Columbus, Ohio**

**Plants:** Lebanon, Pa. Columbus, Ohio. Tonawanda, N. Y.  
**In Canada:** McKinnon Columbus Chain, Ltd., St. Catharines, Ont.

# Dreadnaught Tire Chains

For all sizes and types—Cord and Balloon Tires!

**The Columbus McKinnon Chain Company  
Columbus, Ohio.**

Gentlemen:

I want more chain business. Tell me how I can get it and how I can get an "Ask-'em-to-Buy" Cabinet.

Name \_\_\_\_\_

### Address.

**Jobber's Name..**

### **Jobber's Address....**

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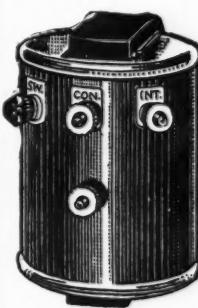
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## Laugh This Off!

For every six spark coils you ever sold you could have sold ten Primax—and with less effort.

Why?

Because our registered guarantees show that 42 out of every 100 Primax go to replace coils that were working as well as ever, but not good enough.



## THORDARSON PRIMAX IGNITION

THORDARSON ELECTRIC MANUFACTURING CO.  
Transformer specialists since 1895  
WORLD'S OLDEST AND LARGEST EXCLUSIVE TRANSFORMER MAKERS  
Chicago, U.S.A.

**MAIL THIS COUPON NOW!**

THORDARSON ELECTRIC MFG. CO.  
500 W. Huron St., Chicago, Ill.

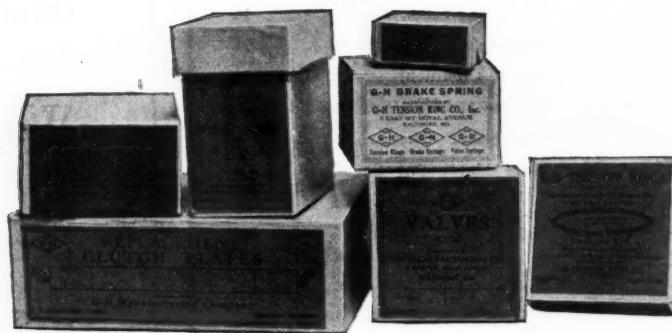
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(1)

# A Profitable Line



## Products

- Brake Springs
- Clutch Plates
- Clutch Springs
- G-H Tension Rings
- Piston Pin Retaining Springs
- Universal Joint Parts
- Valve Lifter Assemblies, Guides, Rollers, Etc.
- Valve Springs
- Valve Keys
- Valves

THE combined judgment of successful Jobbers and Repairmen is its best endorsement!

The fact that hundreds of Jobbers continue to stock and sell G-H Products year after year is the highest recommendation possible from a standpoint of Quality, Performance—and satisfactory Profit.

Repairmen owe it to themselves and the customers they serve to use only replacement parts of the highest standards—G-H meets these requirements.

Ask your Jobber or write for catalog and discounts on the complete line.

## G-H MANUFACTURING COMPANY

G-H Tension Ring Company, Inc.

6 and 8 East Mount Royal Avenue

Baltimore, Maryland

for Economical Transportation



# The Smoothest CHEVROLET in Chevrolet History!

## Multiple-cylinder Performance with Chevrolet Economy

Introducing into the low-priced field the same slow-speed smoothness, velvety acceleration and smooth high-speed performance that identify multiple-cylinder cars, today's Chevrolet assures Chevrolet dealers of continued sales leadership in the world's greatest motor car market.

Everywhere the world over, Chevrolet's sensational performance and amazing economy are sending Chevrolet sales to new record-breaking heights.

No other car presents greater possibilities for successful merchandising in the low-priced field—because none but Chevrolet offers such an irresistible combination of quality features, modern construction, smart appearance and smooth, powerful performance. That's why Chevrolet dealers, backed by the greater selling advantages of the smoothest Chevrolet in Chevrolet history are enjoying a new era of prosperity—the like of which has never before been experienced by any dealer organization in the industry.

Touring . .	<b>\$510</b>
Roadster . .	<b>510</b>
Coach . .	<b>645</b>
Coupe . .	<b>645</b>
Four Door Sedan . .	<b>735</b>
Landau . .	<b>765</b>
½-Ton Truck <small>(Chassis Only)</small>	<b>\$ 375</b>
1-Ton Truck <small>(Chassis Only)</small>	<b>495</b>

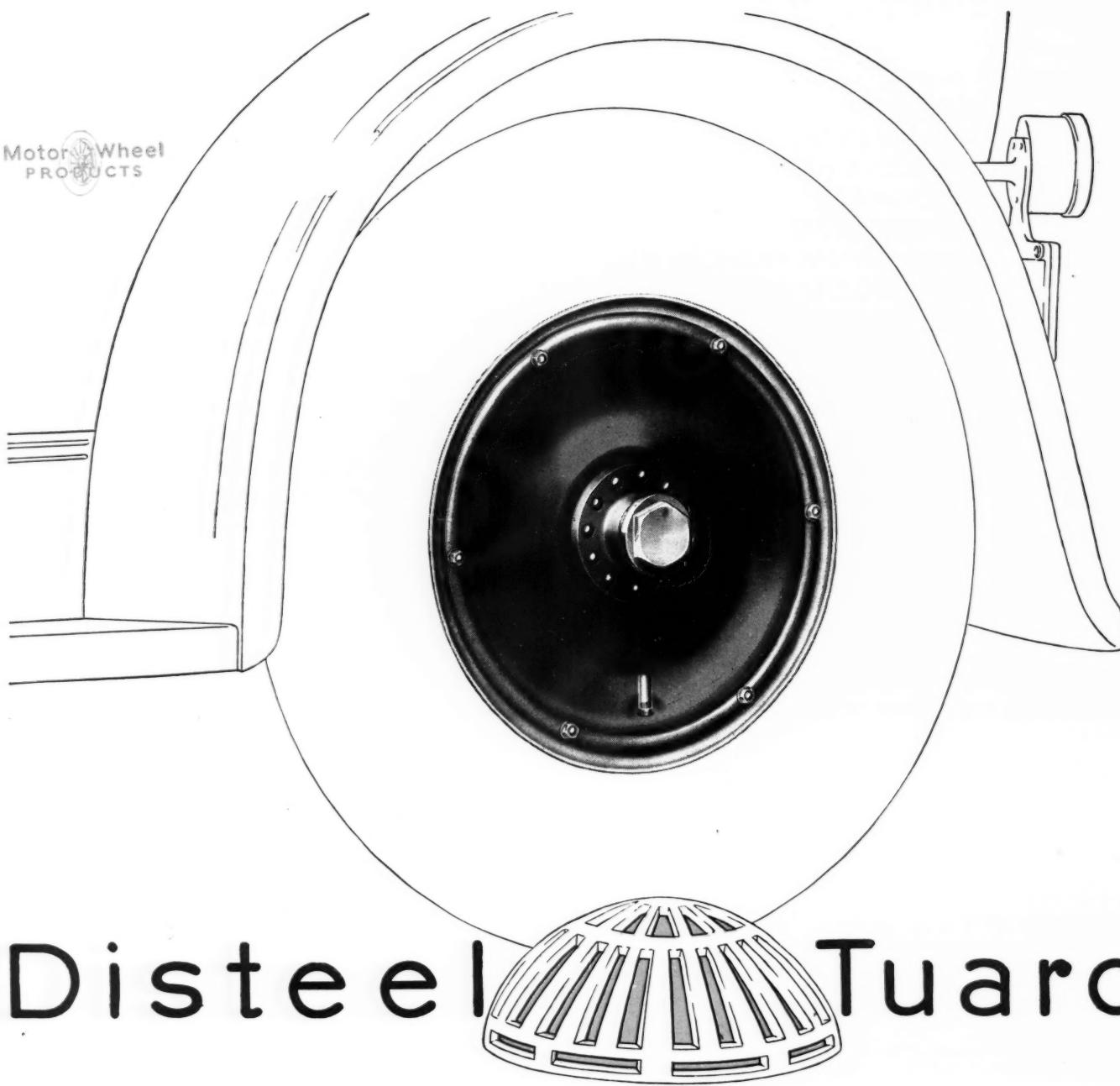
All prices f. o. b. Flint, Mich.

CHEVROLET MOTOR COMPANY, DETROIT, MICH.

Division of General Motors Corporation

# QUALITY AT LOW COST

Motor Wheel  
PRODUCTS



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**W**HHEELS are no doubt the greatest specialty in the automotive industry. Whatever other parts motor car manufacturers themselves may build, the wheels are obtained from wheel organizations quite invariably. The wheel organization most often selected is Motor Wheel. This preference has made Motor Wheel first in wheel volume, as in number of customers. It is still more significant, where specialization is so intense, that Motor Wheel eminence rests upon all of the widely used types of wheels. From this one source manufacturers obtain both wood and steel wheels of the most advanced design. The performance of these wheels—and of Motor Wheel—exercises a wholly constructive influence on sales.

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WOOD WHEELS, STEEL WHEELS, STAMPINGS